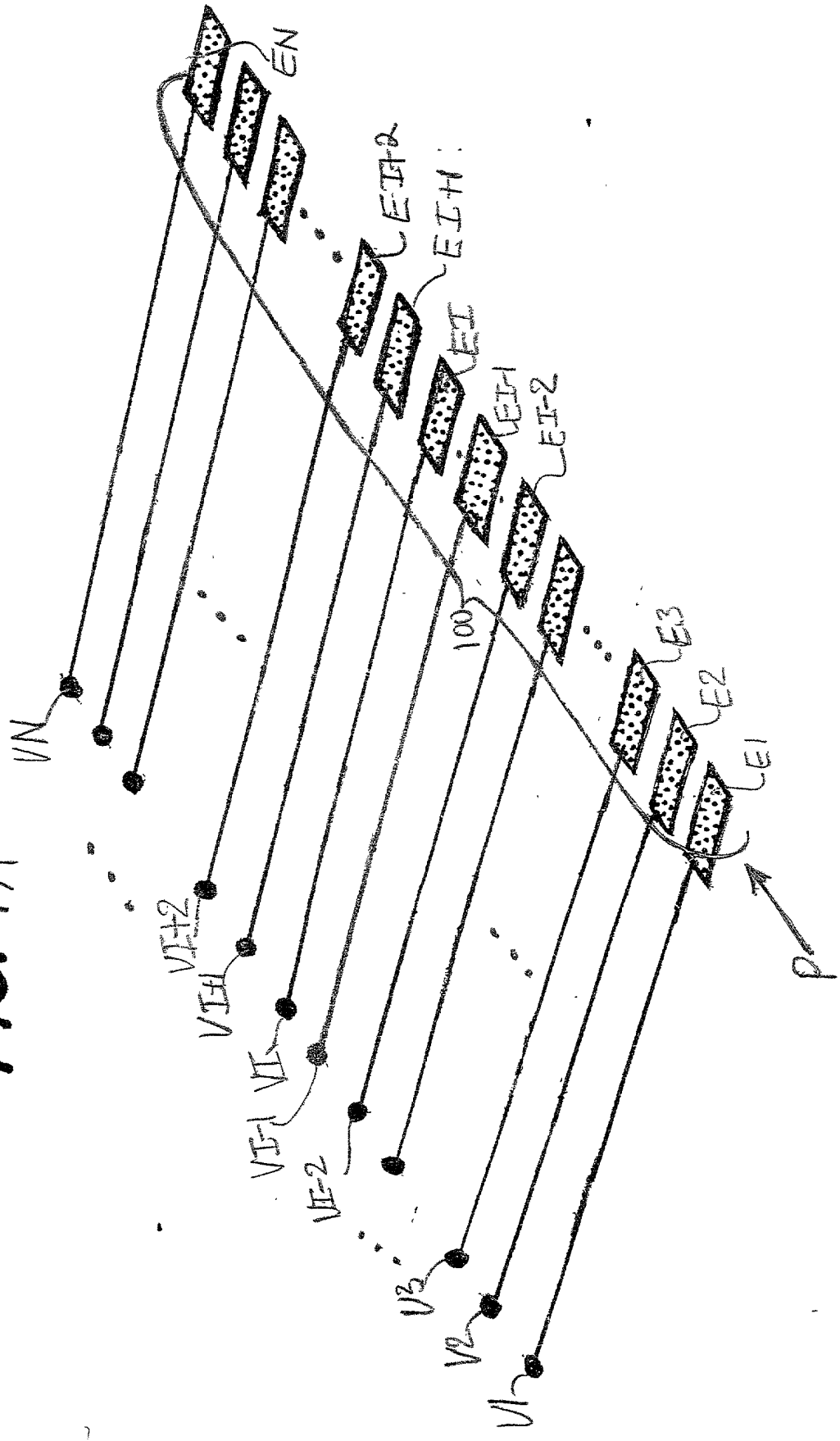
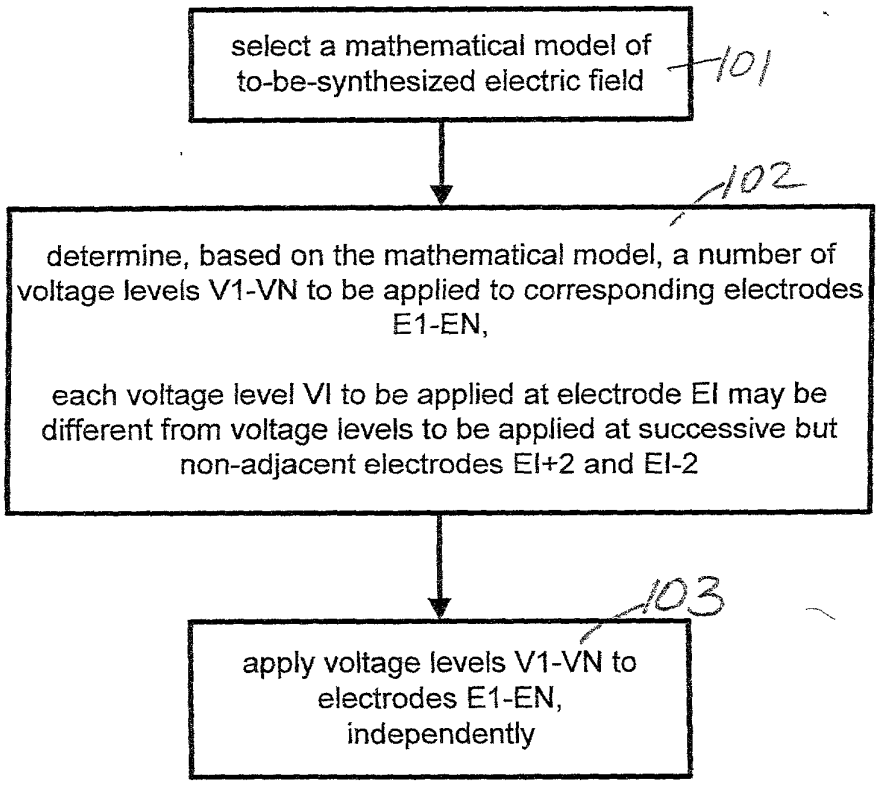


FIG. 1A

10004-00 "5949595"

FIG. 1B


select a mathematical model of to-be-synthesized electric field
101
102
determine, based on the mathematical model, a number of voltage levels V1-VN to be applied to corresponding electrodes E1-EN,
each voltage level VI to be applied at electrode EI may be different from voltage levels to be applied at successive but non-adjacent electrodes EI+2 and EI-2
103
apply voltage levels V1-VN to electrodes E1-EN, independently

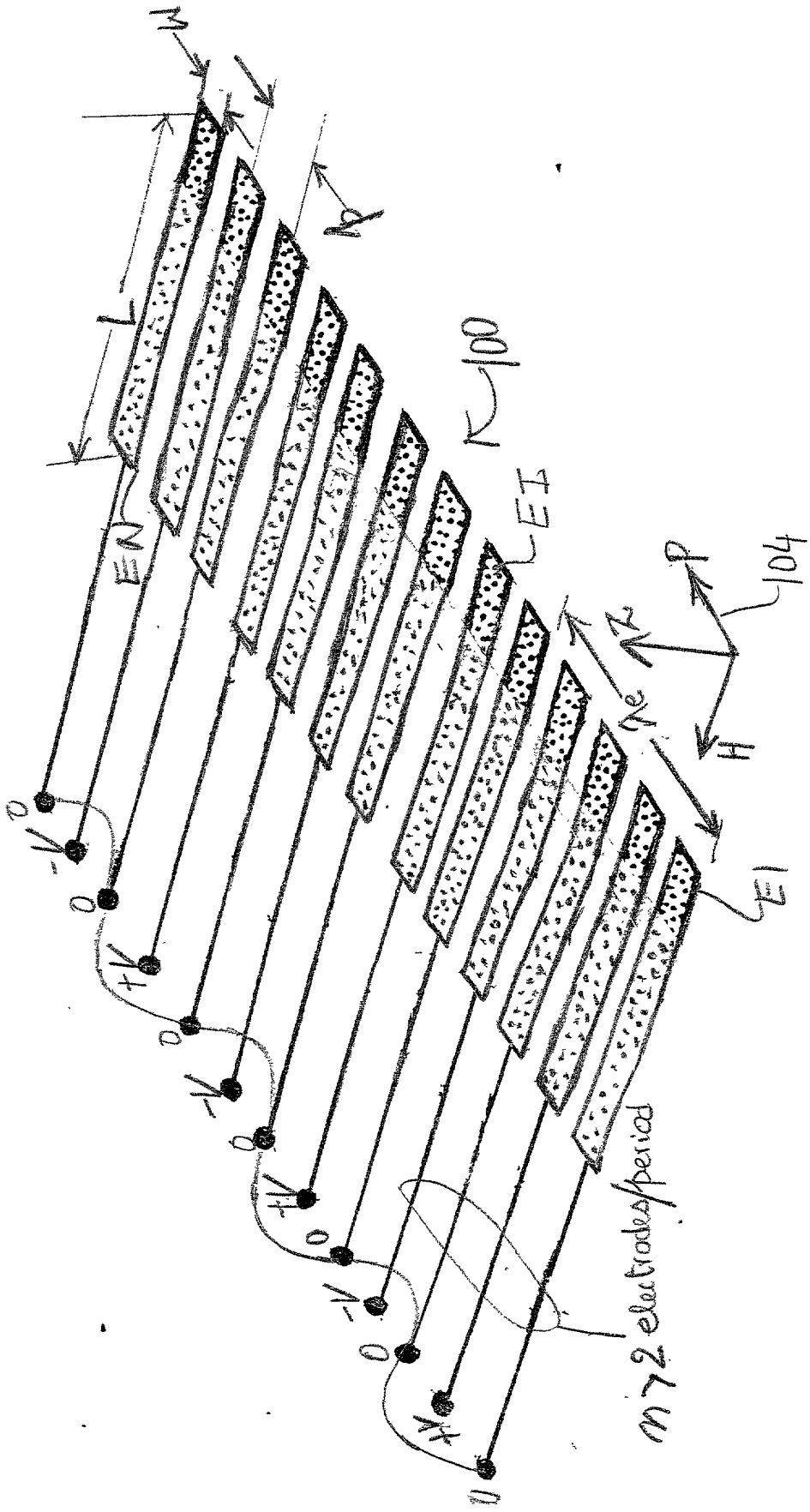
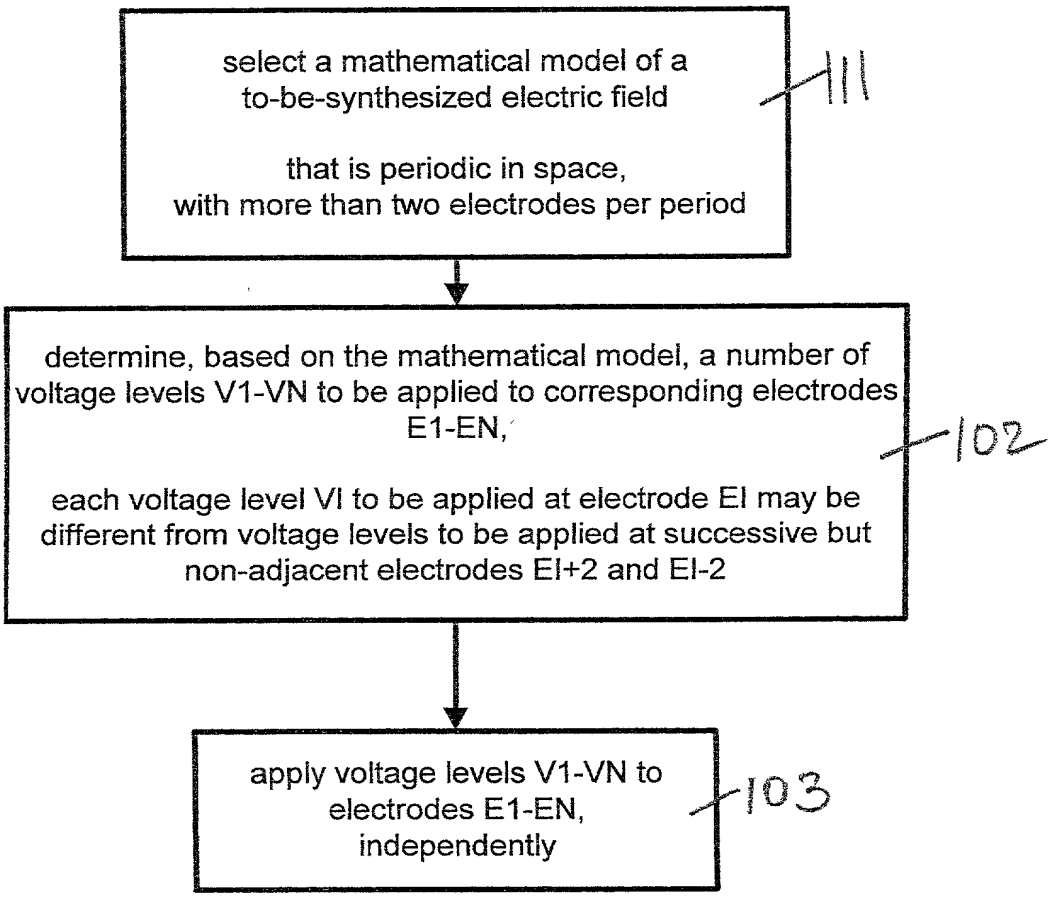


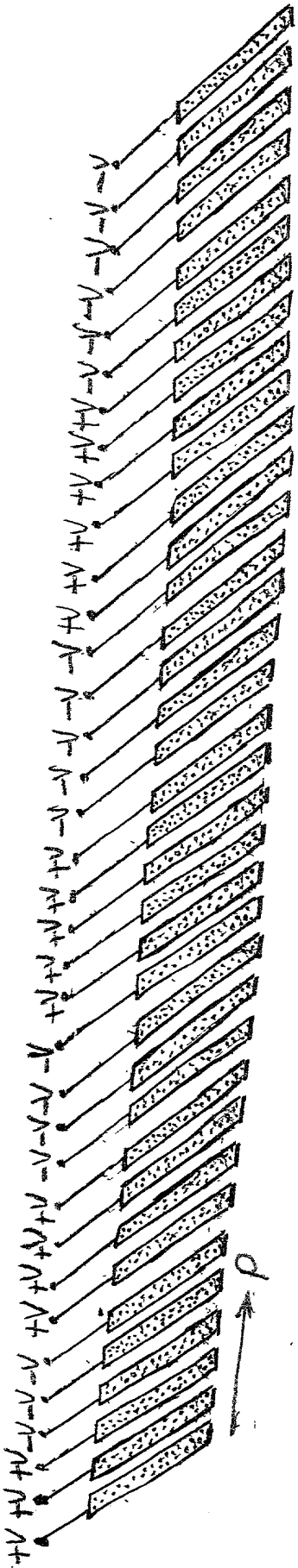
FIG. 2A

09954495 - 090100

FIG. 2B



0955445v1 050107


+V +V +V -V -V +V +V +V -V -V -V +V +V +V +V +V -V -V -V -V -V +V +V +V +V +V -V -V -V -V -V +V +V +V +V +V -V -

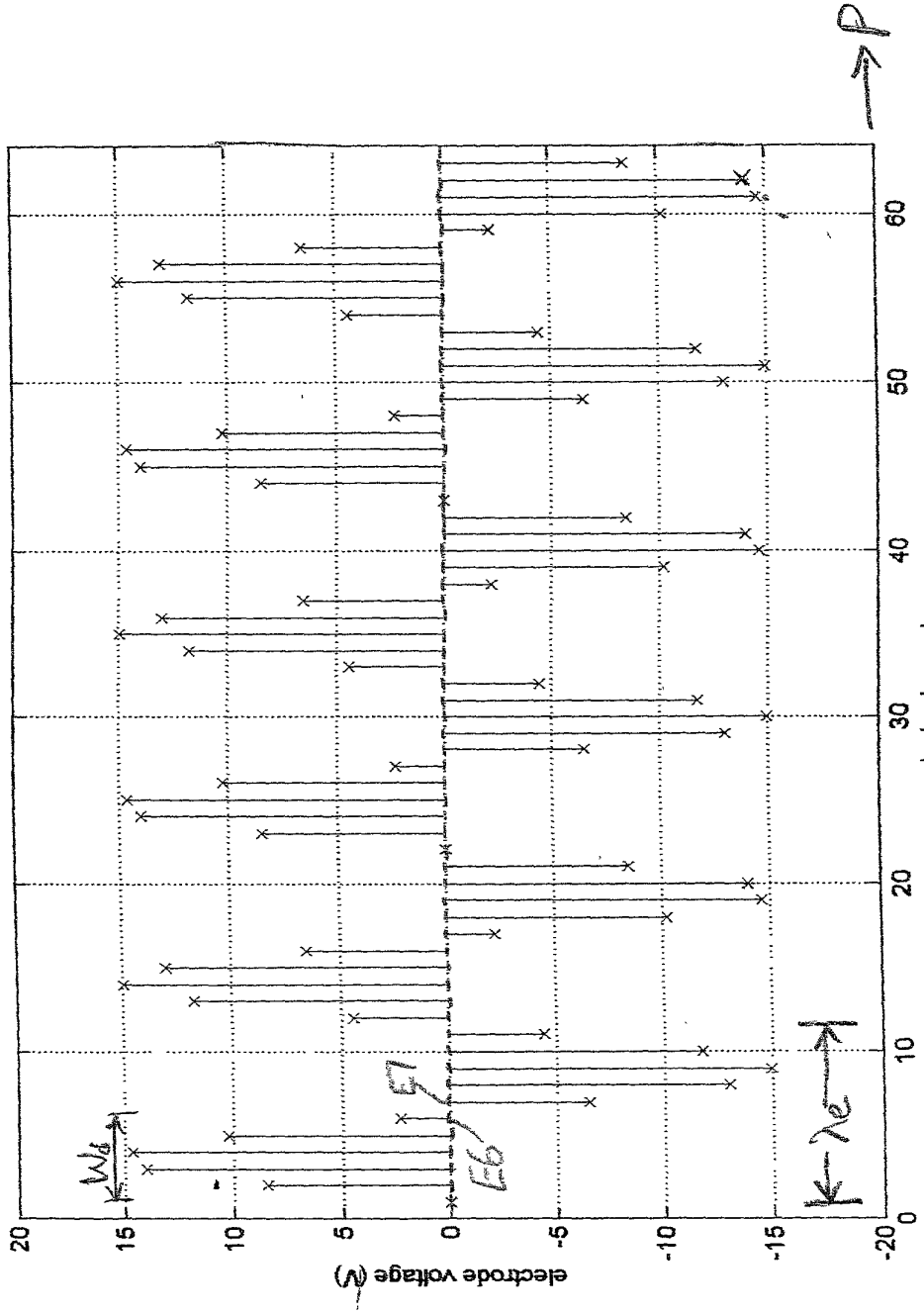

electrode voltage (V)
electrode number
20
15
10
5
0
-5
-10
-15
-20
0
10
20
30
40
50
60
P
λ
Wd
E1
E0

FIG. 3

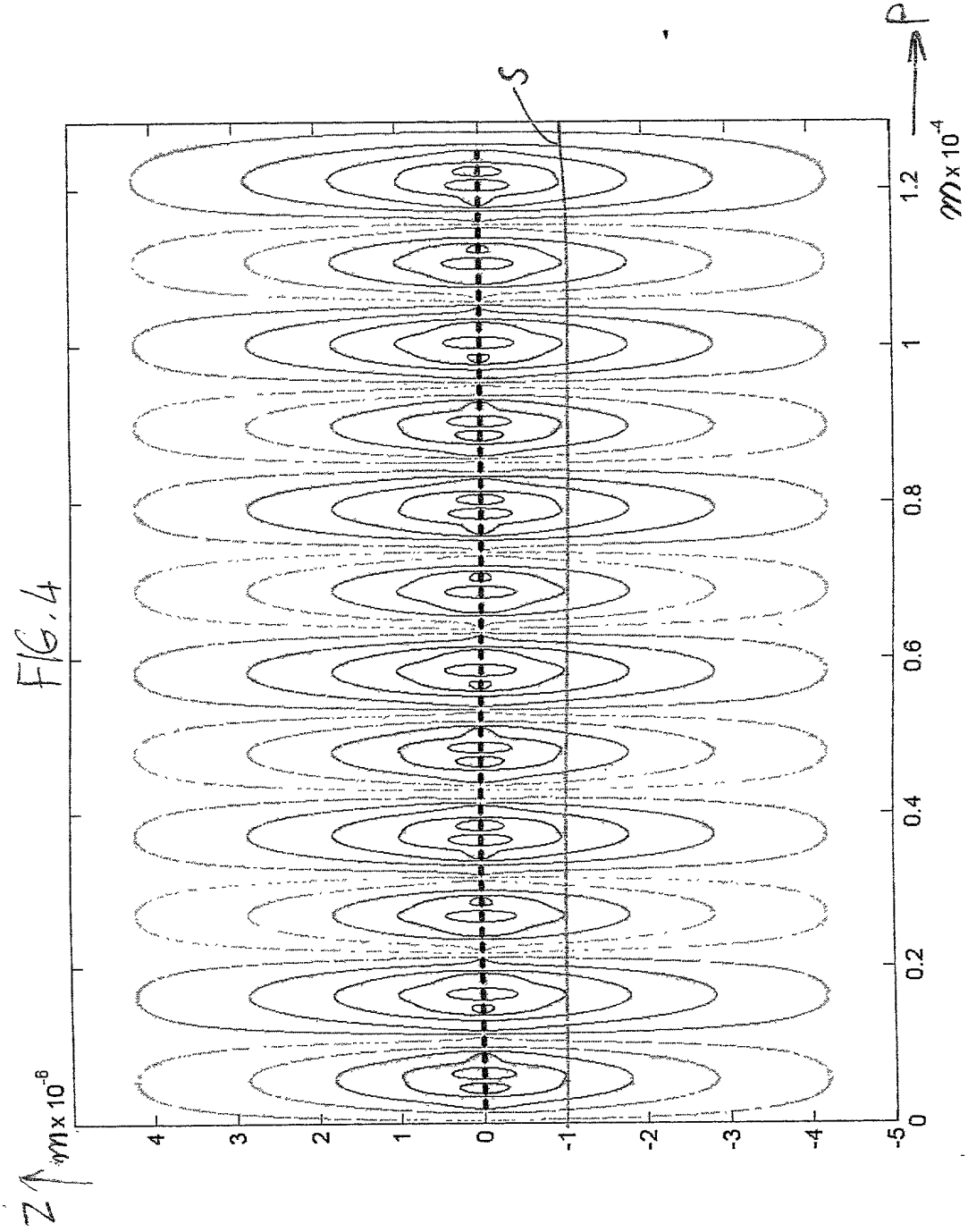


FIG. 4

DOCKET ALARM

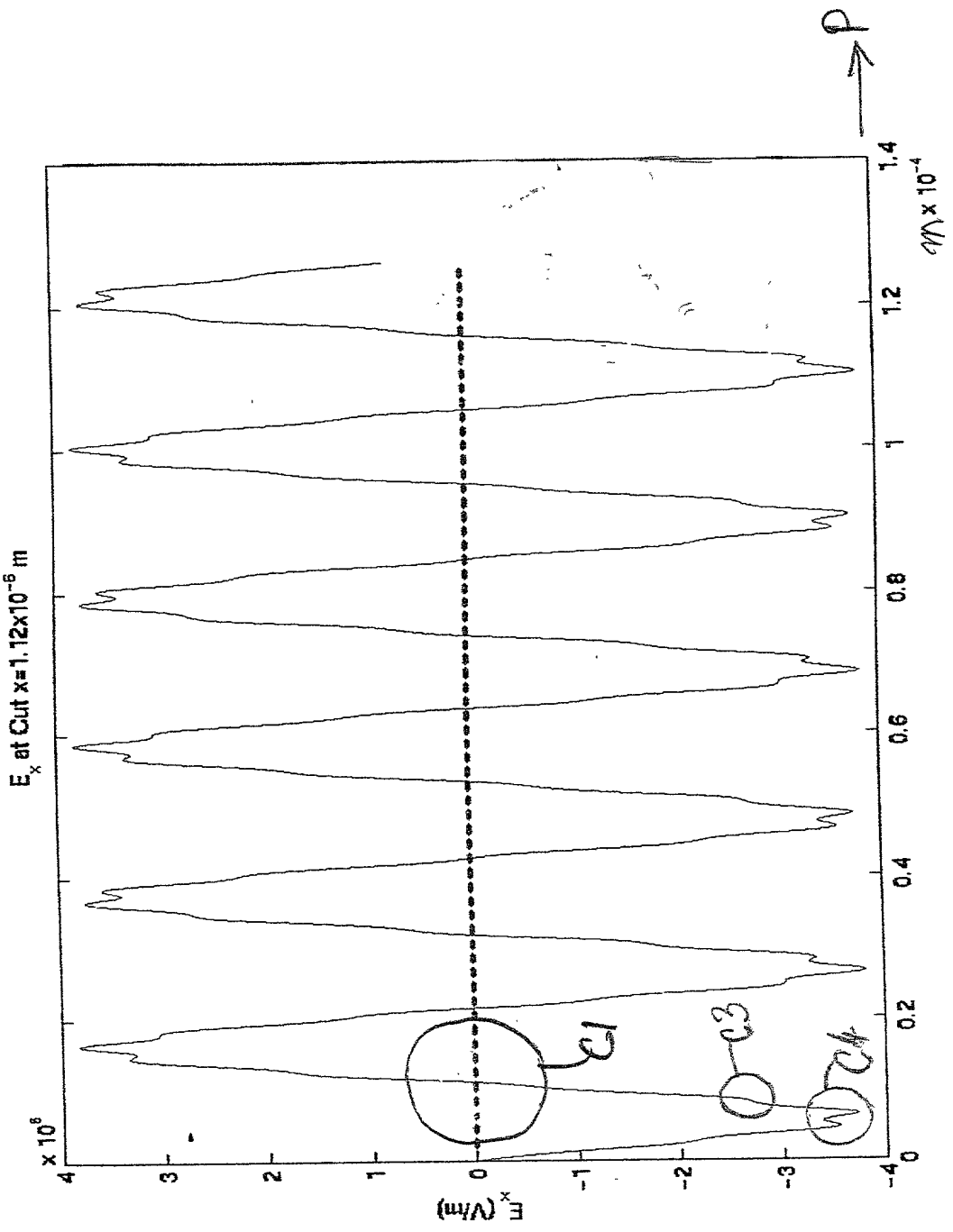


FIG. 5

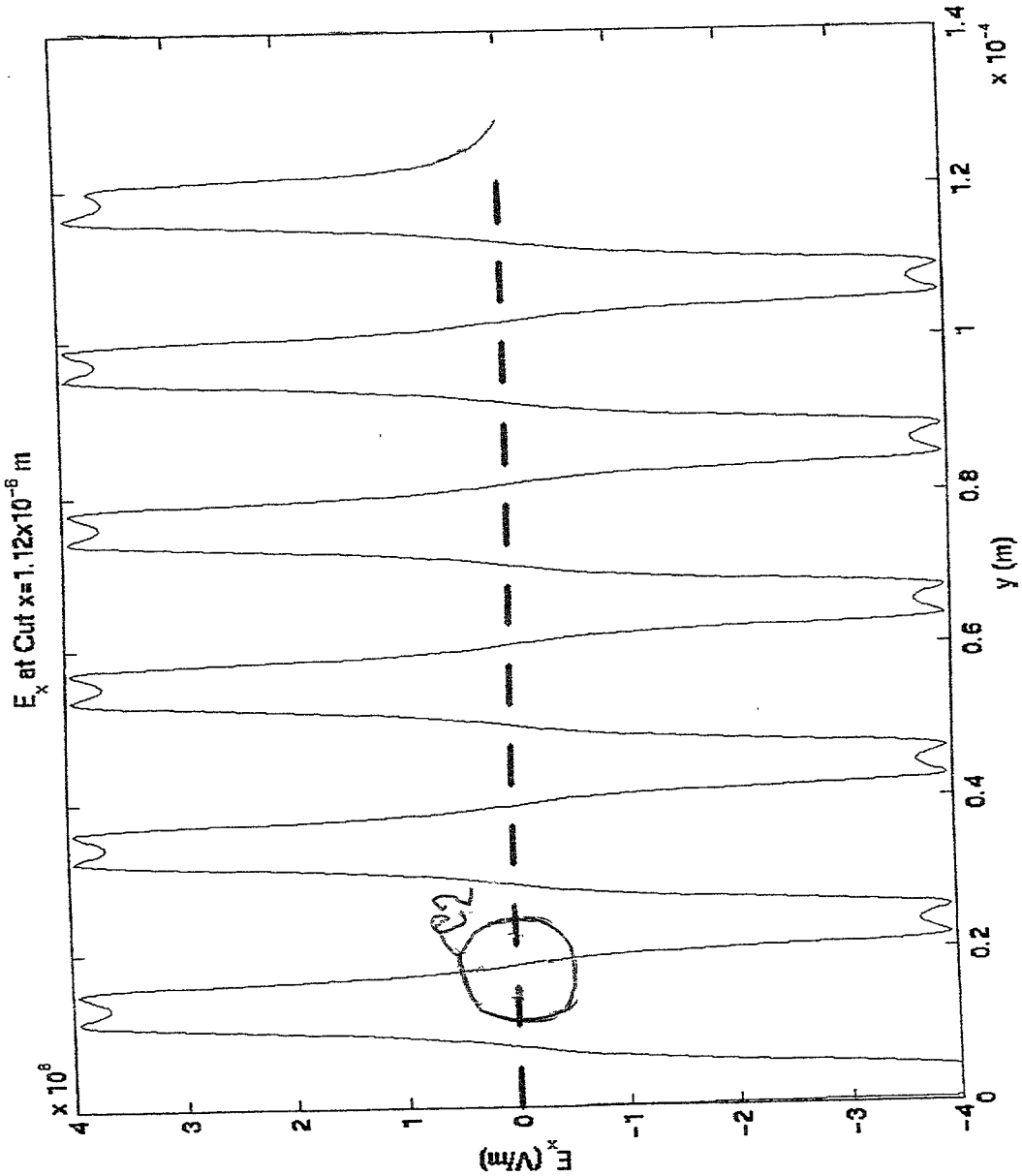


FIG. 6A (Prior Art)

Protected Sheet

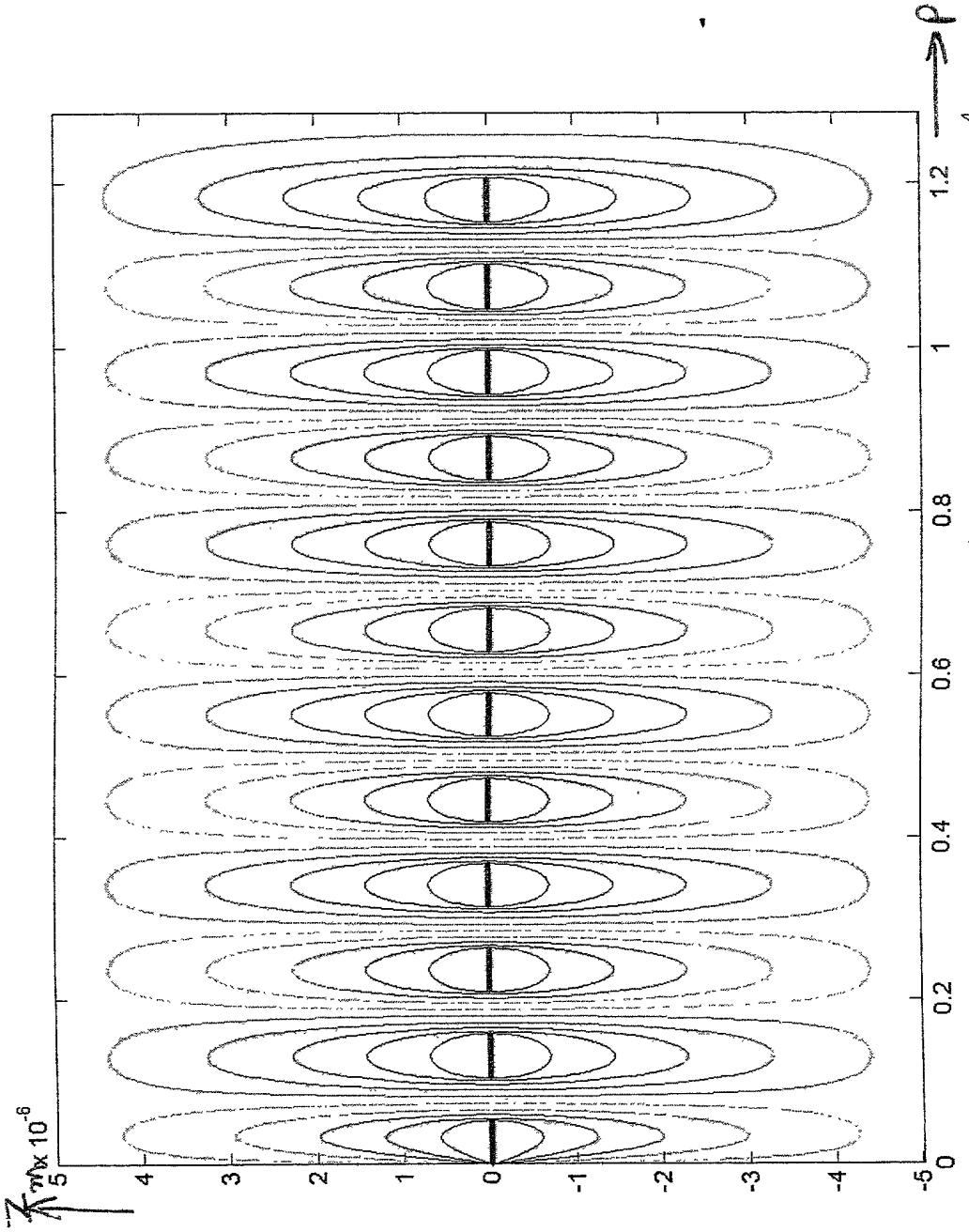


FIG. 6B (PRIOR ART)

Patent Application Publication

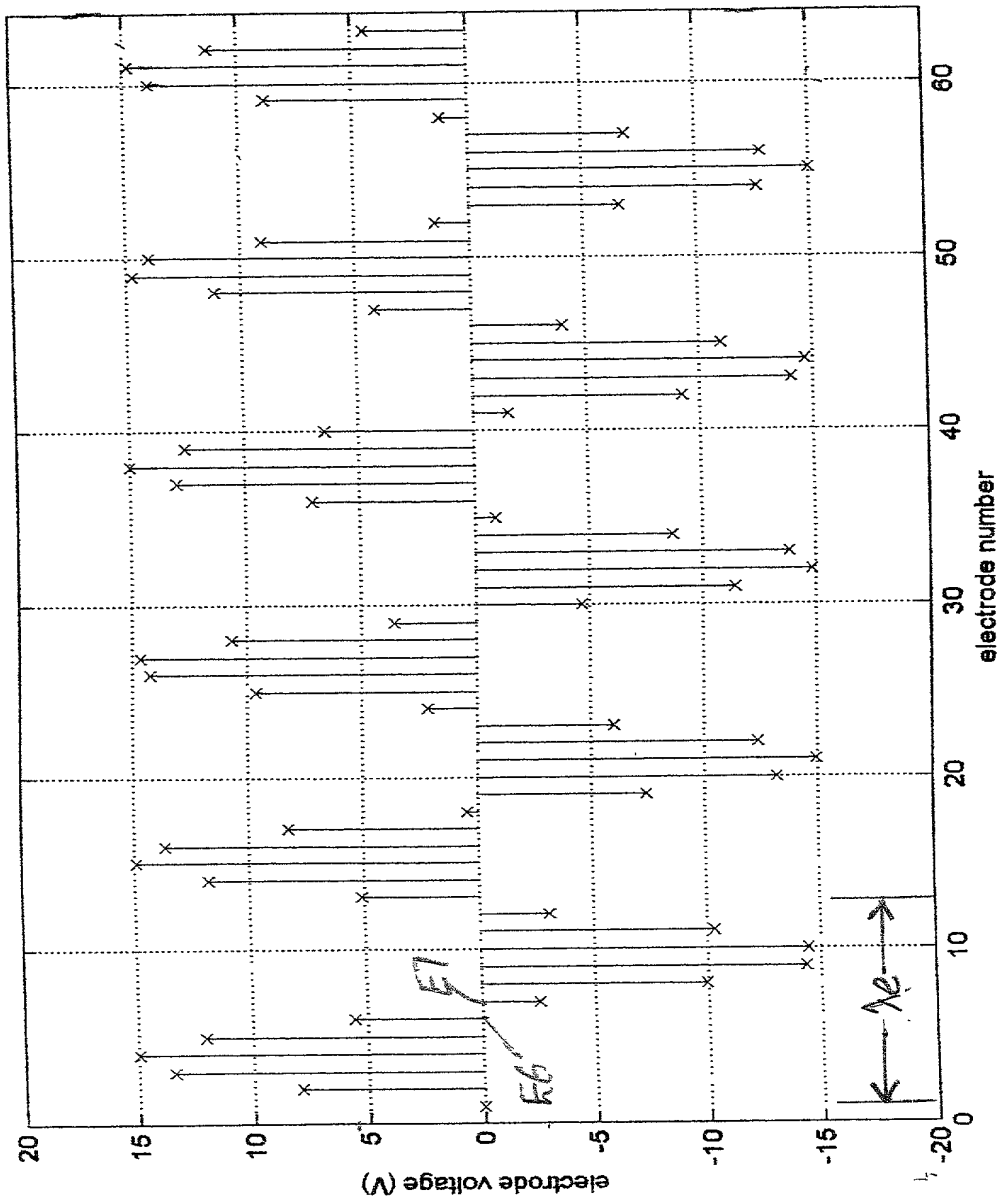

electrode voltage (V)
20
15
10
5
0
-5
-10
-15
-20
0
10
20
30
40
50
60
electrode number
Ne

FIG. 7

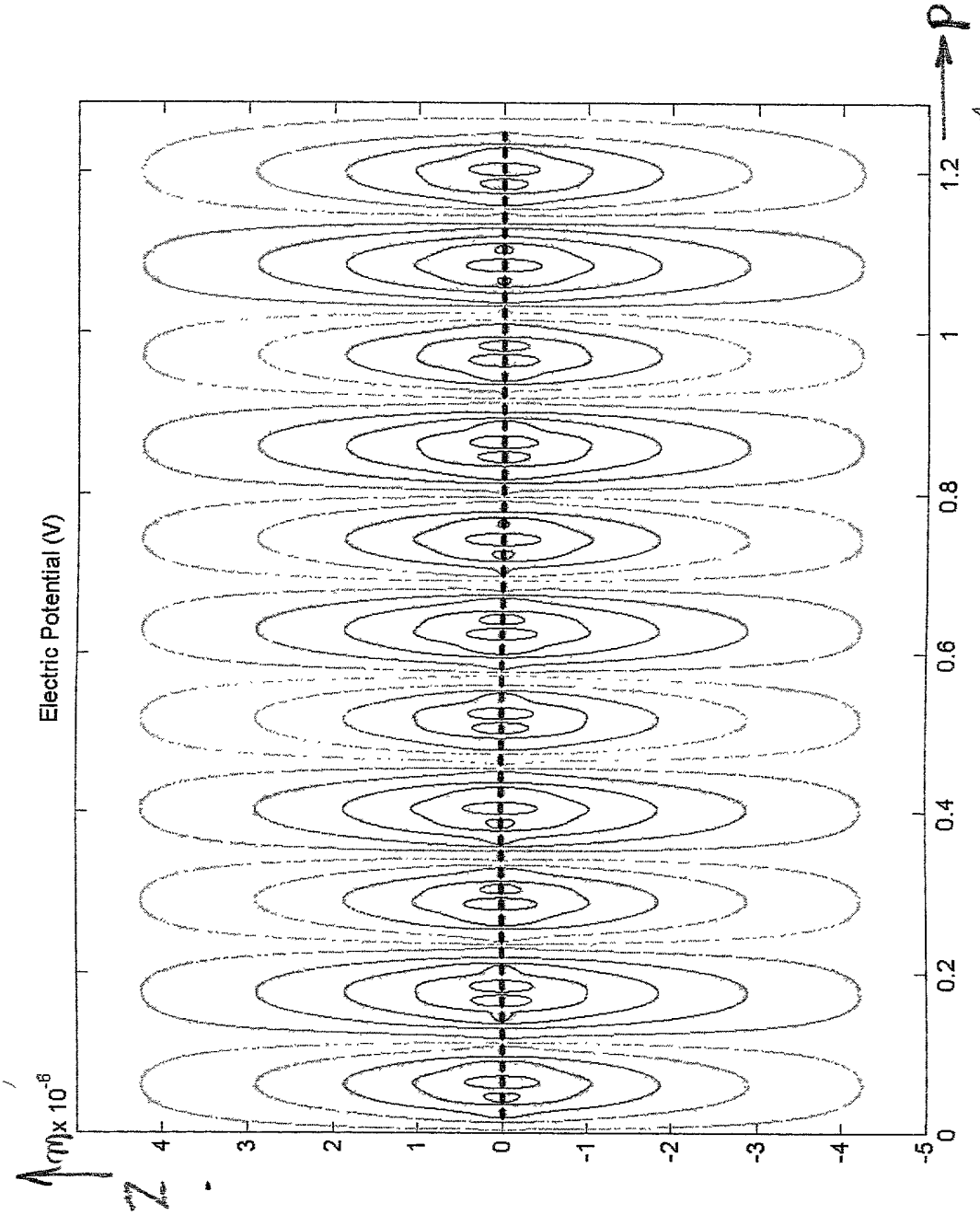

Electric Potential (V)
$\Delta(\eta) \times 10^{-6}$
4
3
2
1
0
-1
-2
-3
-4
0
0.2
0.4
0.6
0.8
1
1.2
$m \times 10^{-4}$
P

FIG. 8

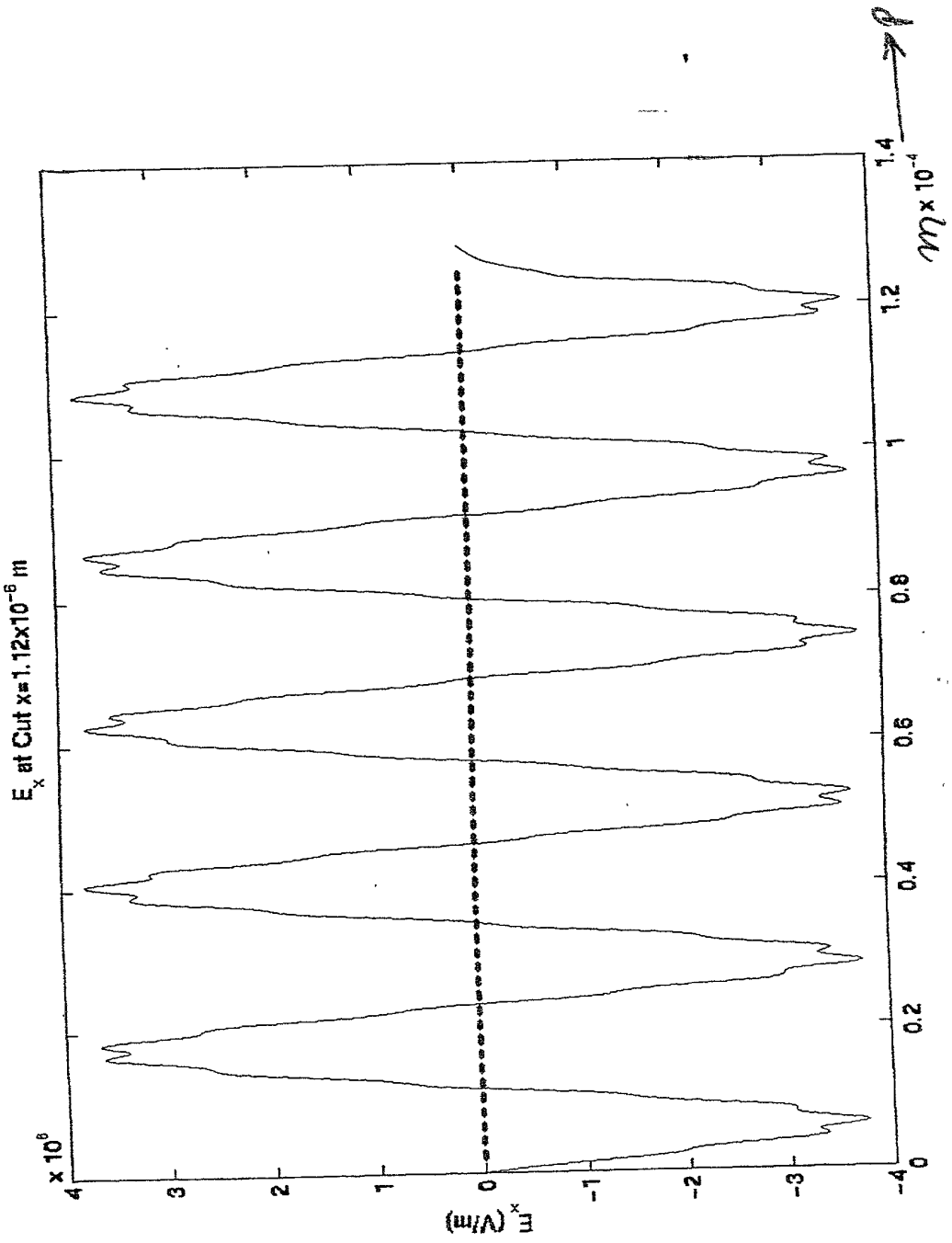


FIG. 9

09515196.060105

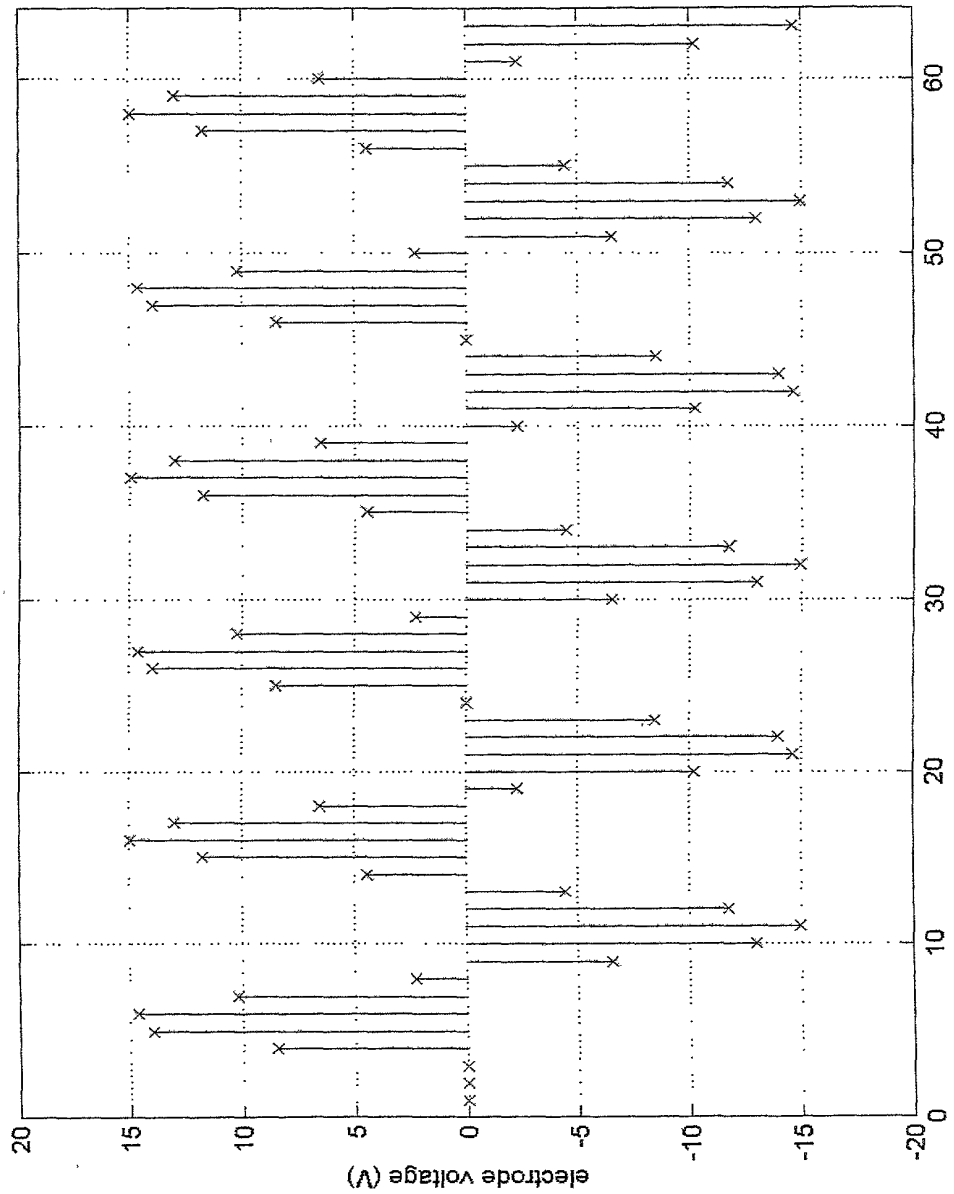

electrode voltage (V)
20
15
10
5
0
-5
-10
-15
-20
electrode number
0
10
20
30
40
50
60

FIG. 10

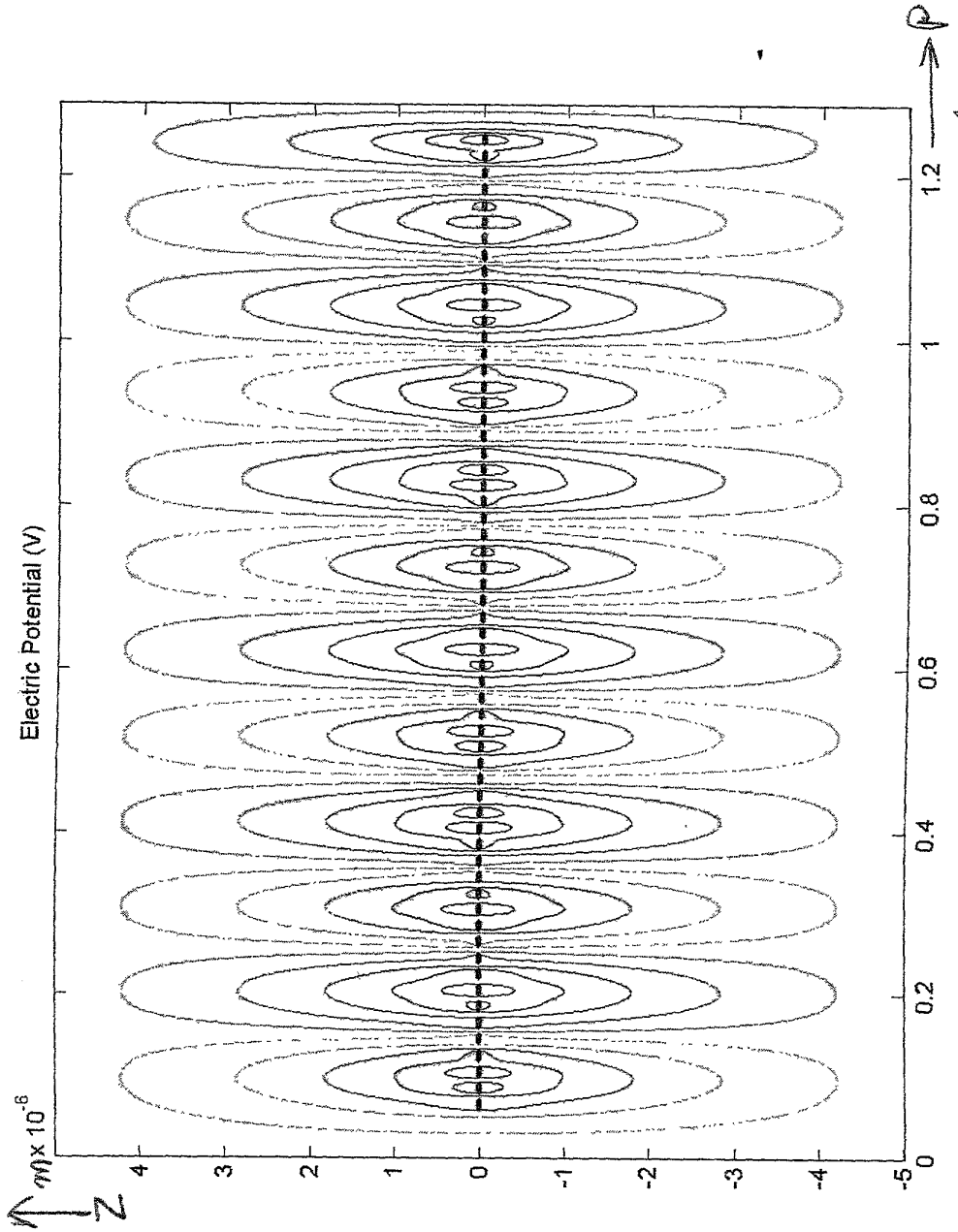

Electric Potential (V)
z
m x 10^-6
4
3
2
1
0
-1
-2
-3
-4
-5
0
0.2
0.4
0.6
0.8
1
1.2
r
m x 10^-4

FIG. 11

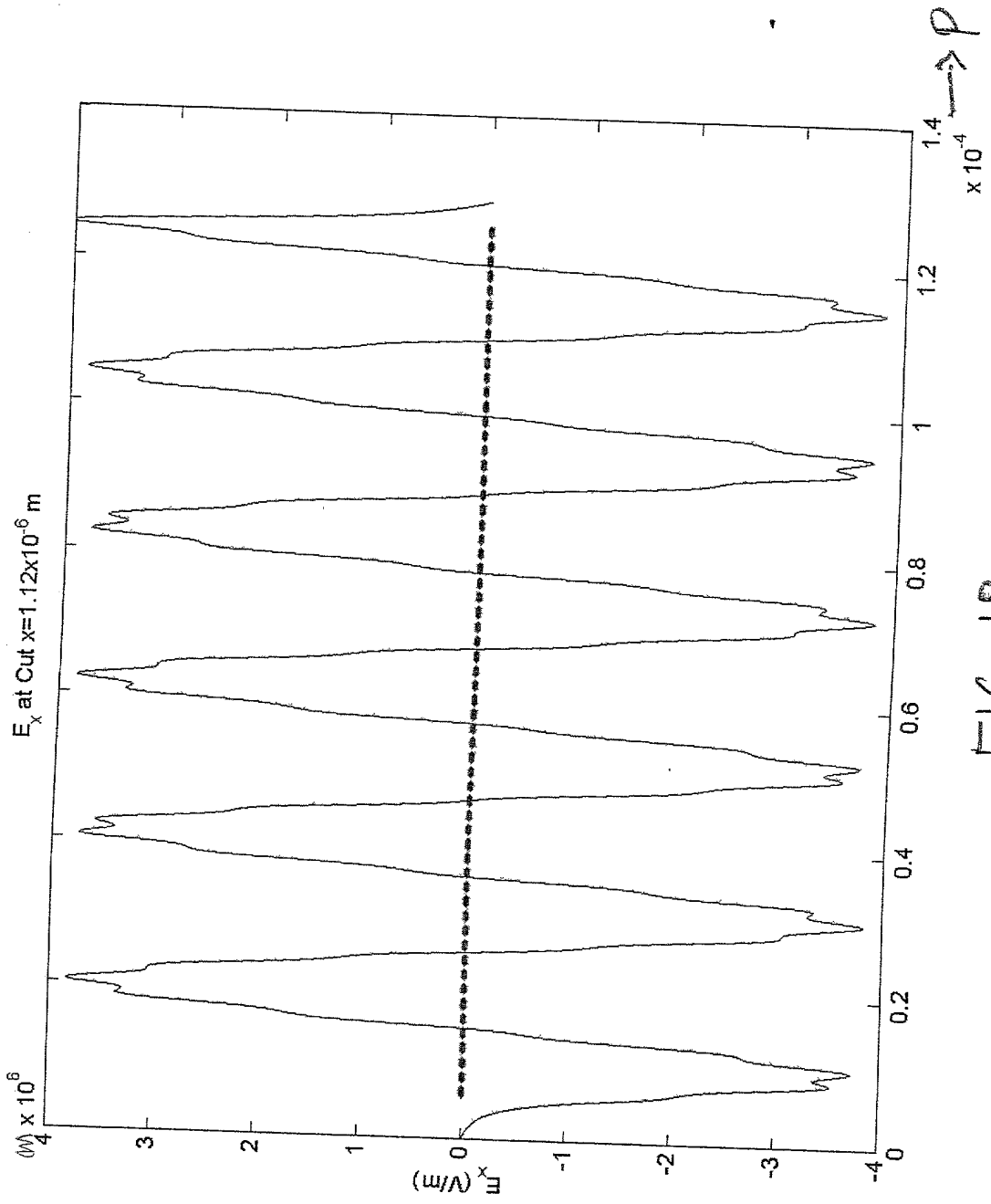


FIG. 12

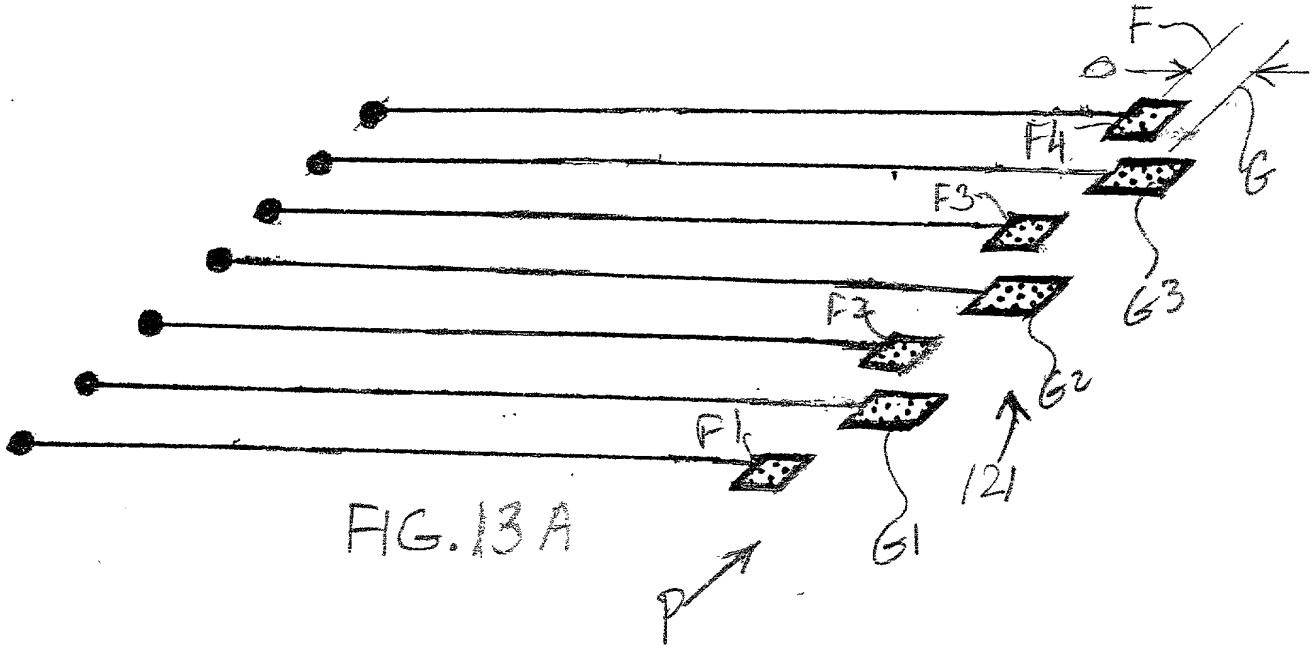


FIG. 13A

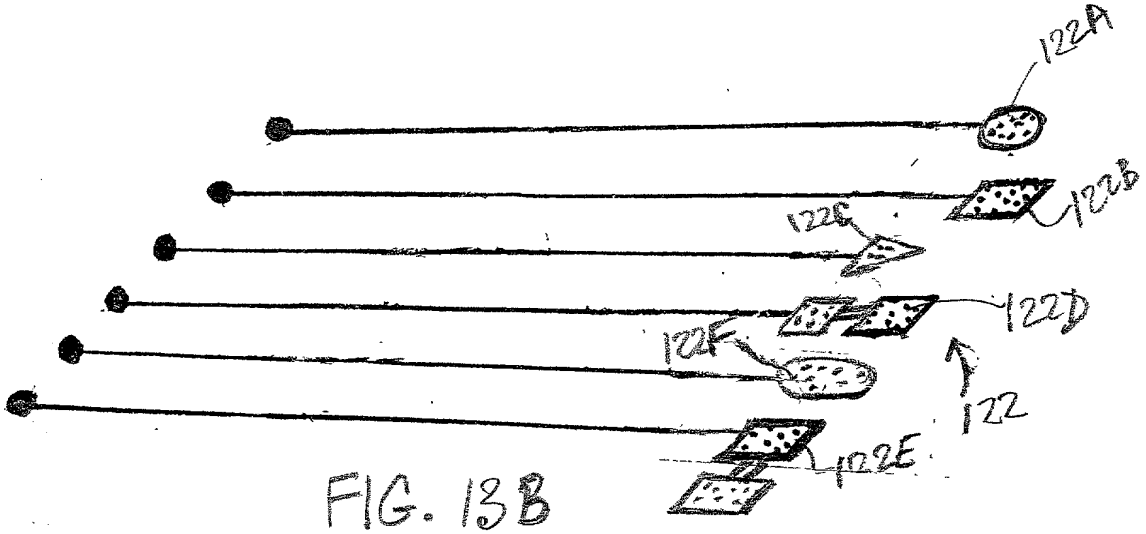


FIG. 13B

FIG. 14

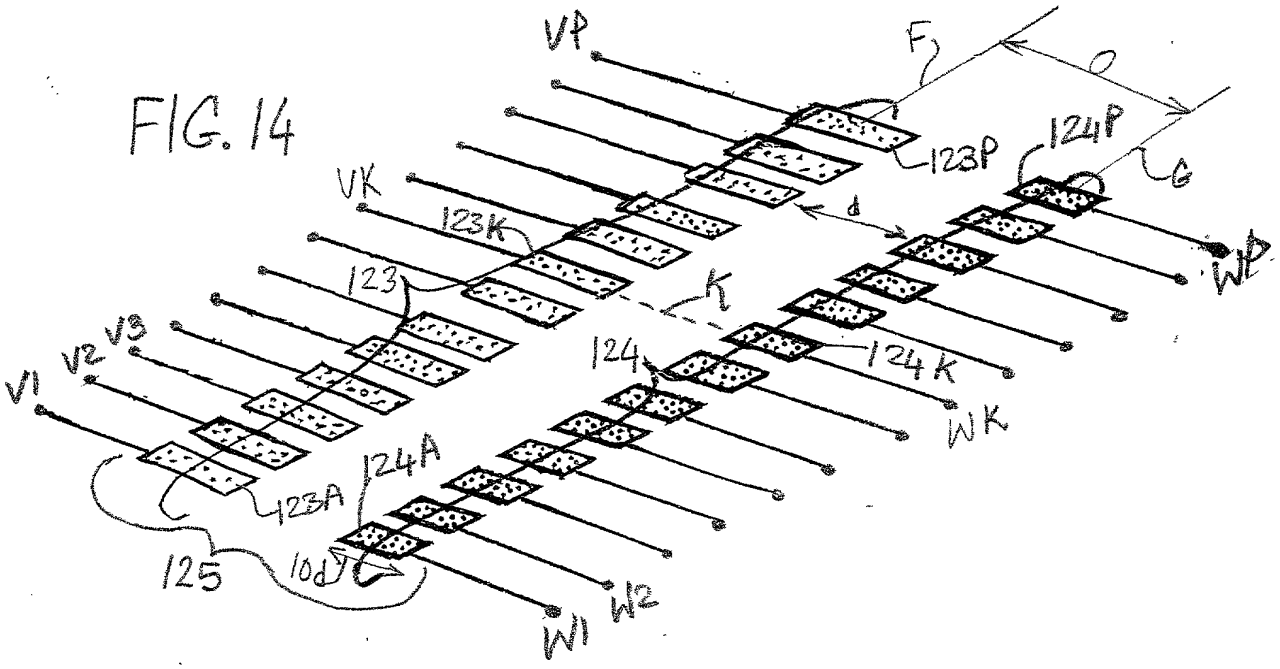
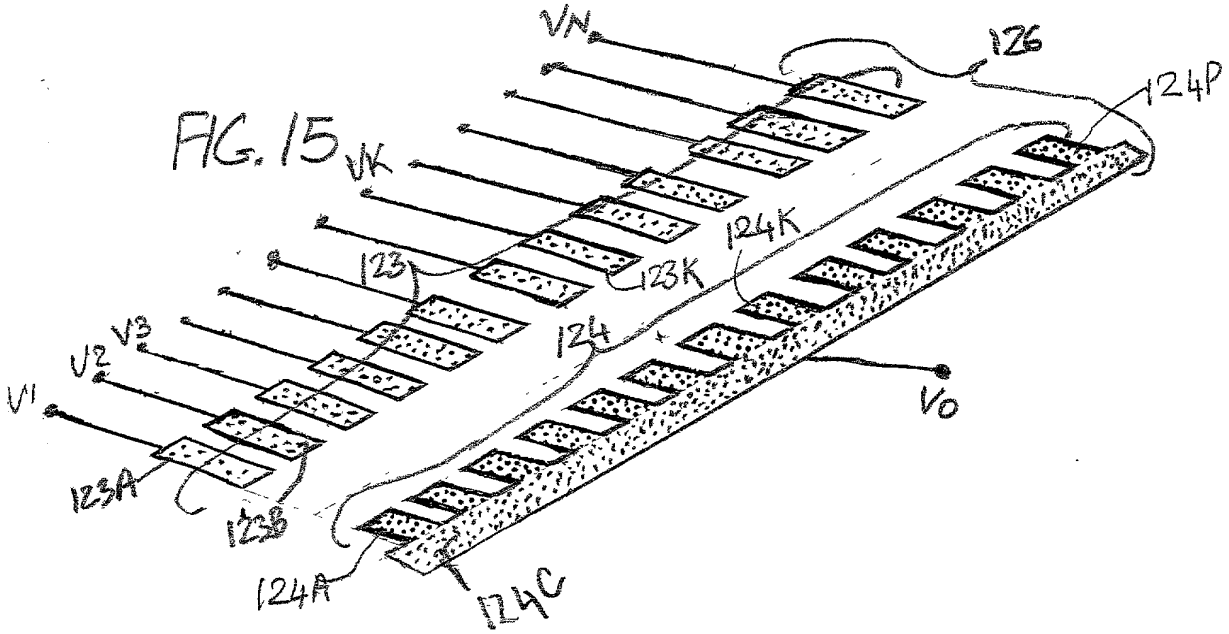

VP
F
O
123P
124P
G
VK
123K
d
WP
123
K
124
124K
WK
V1
V2
V3
124A
123A
125
10d
W1
W2

FIG. 15


VN
126
124P
VK
124K
123
123K
124
V3
V2
V1
Vo
123A
123B
124A
124C

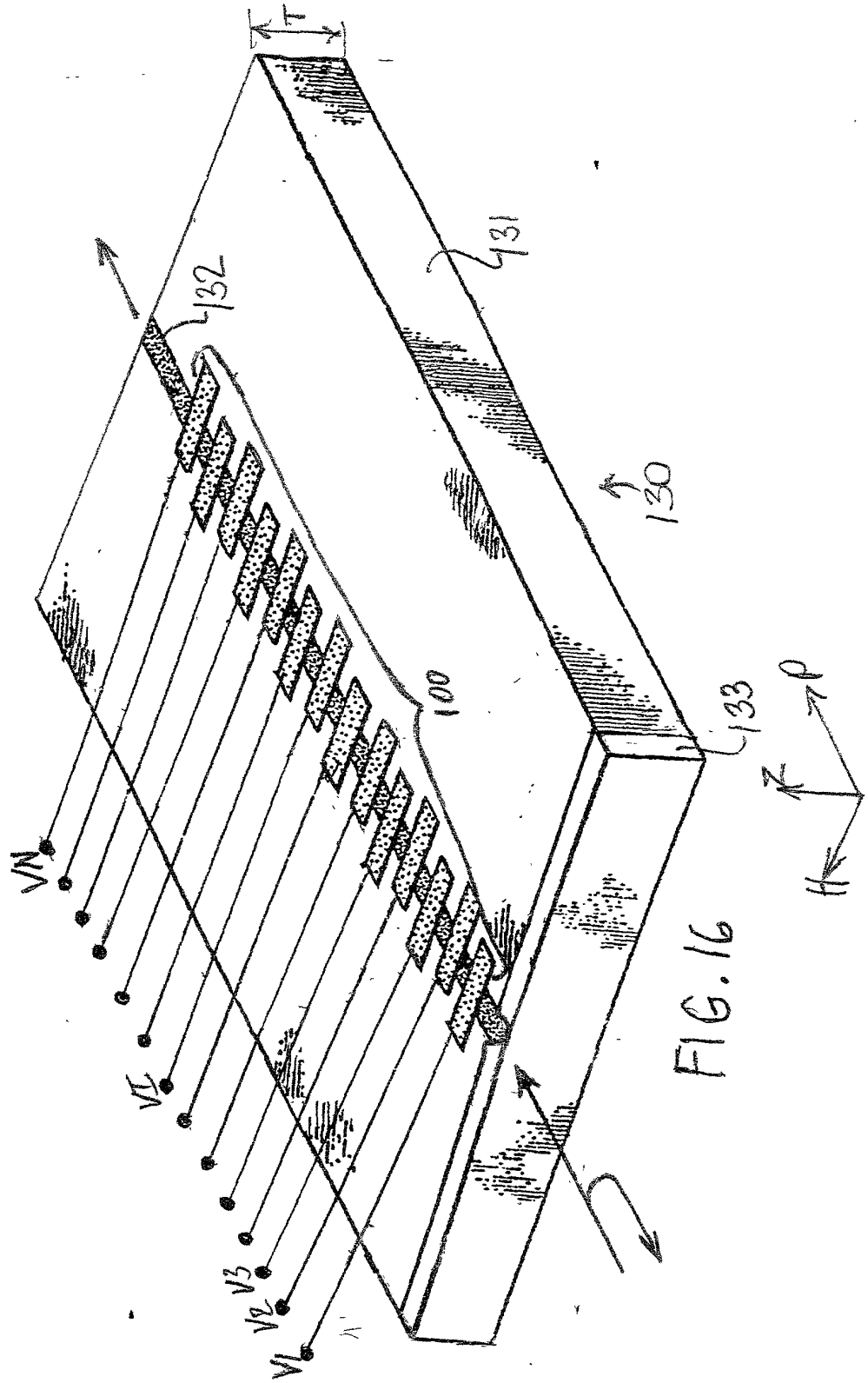


FIG. 16

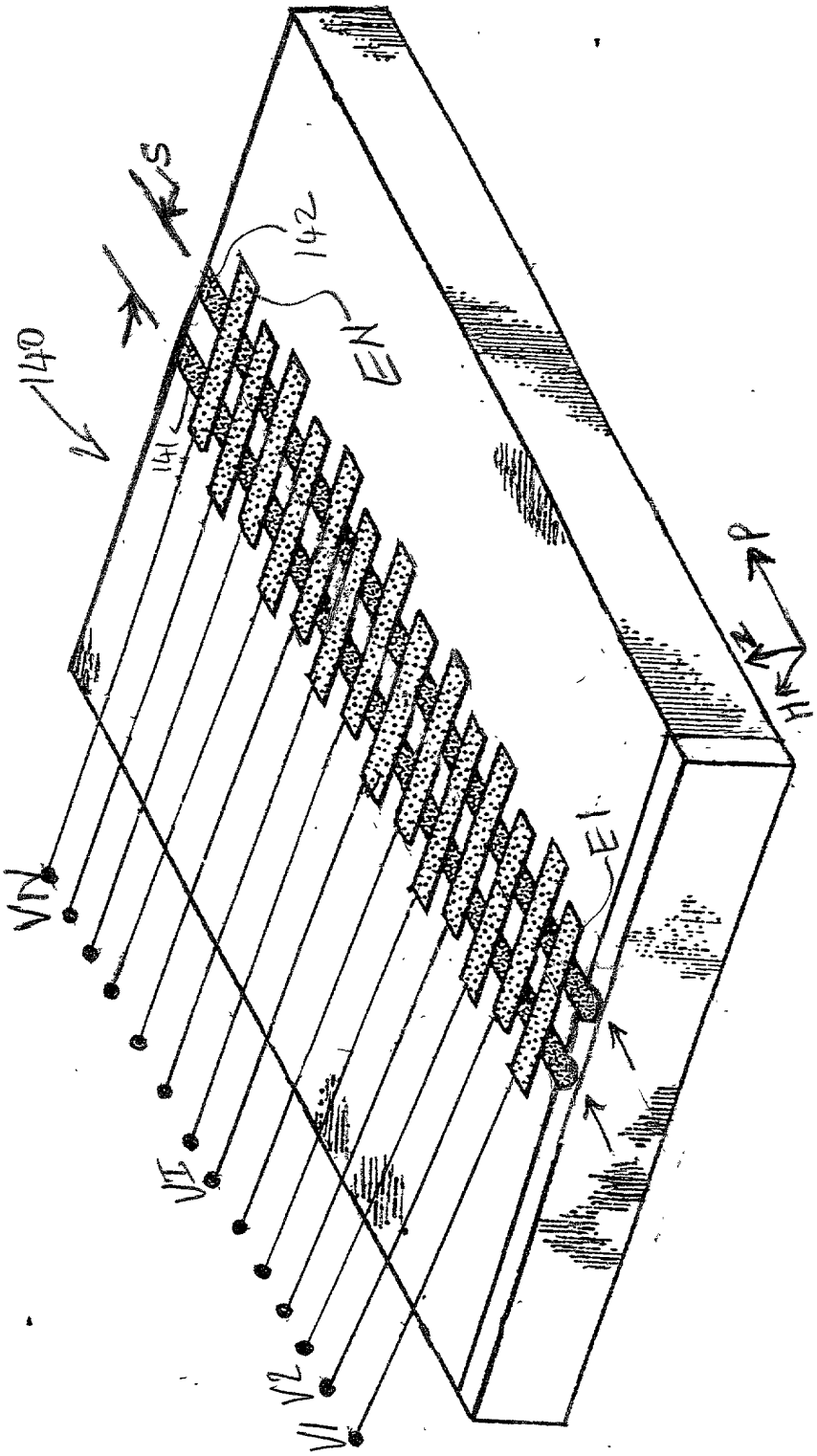


FIG. 17

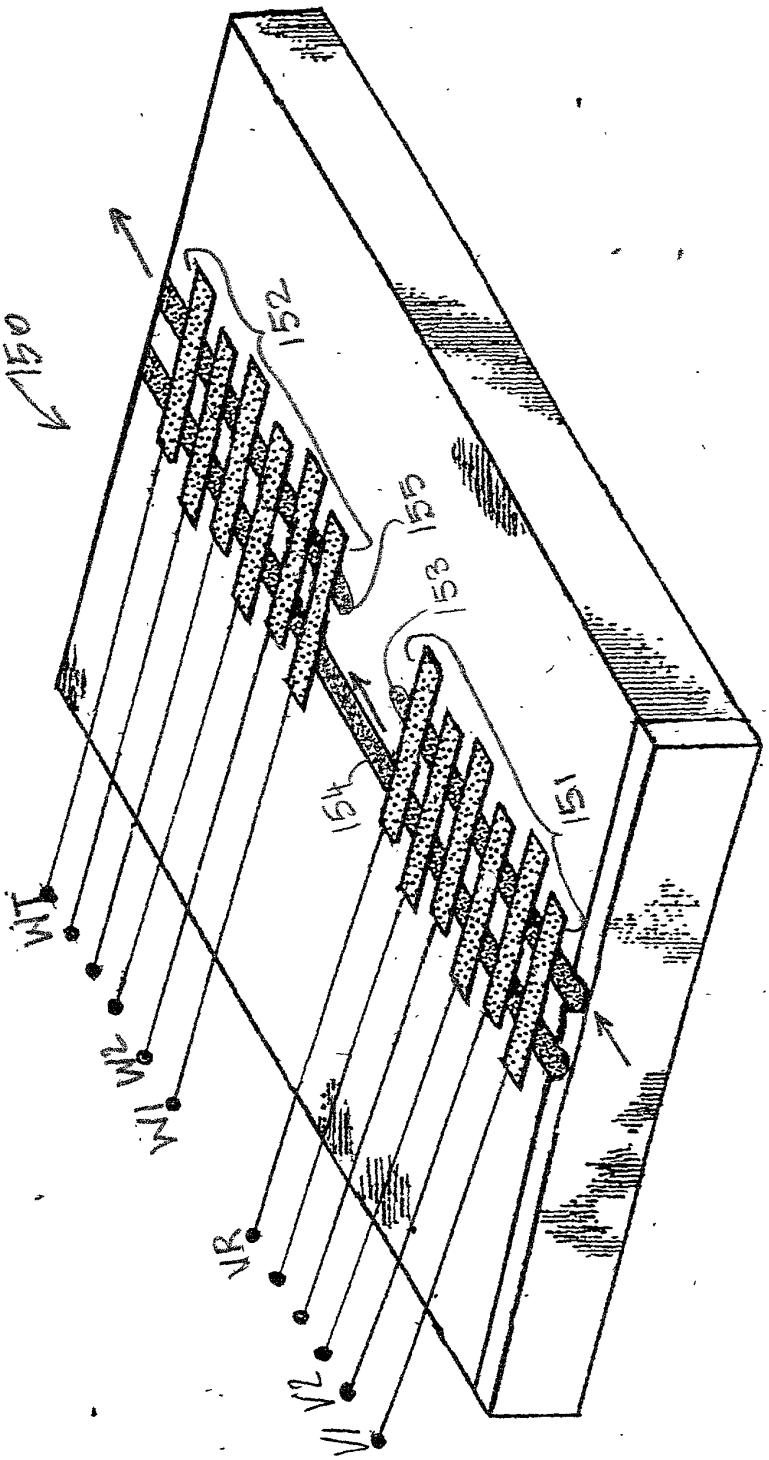
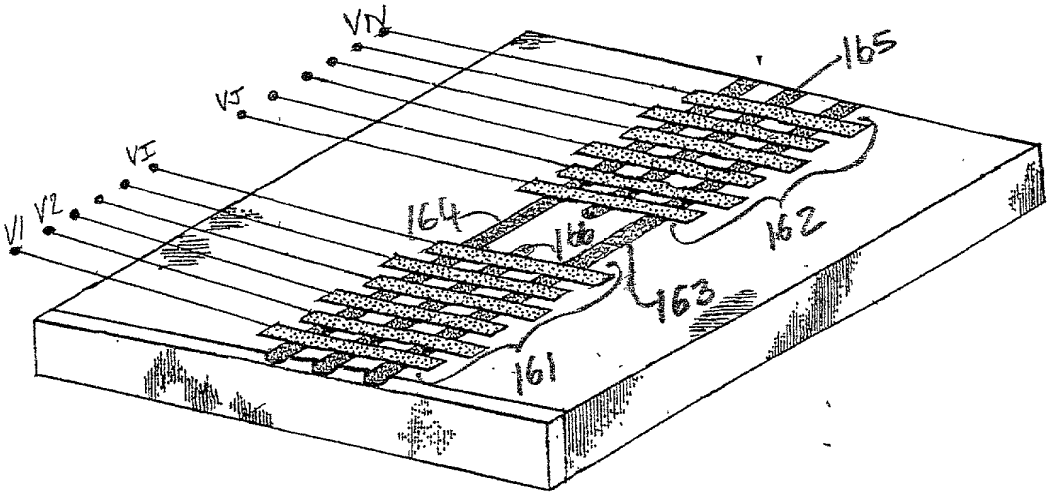


FIG. 18

1007690 - 5694560

FIG. 19



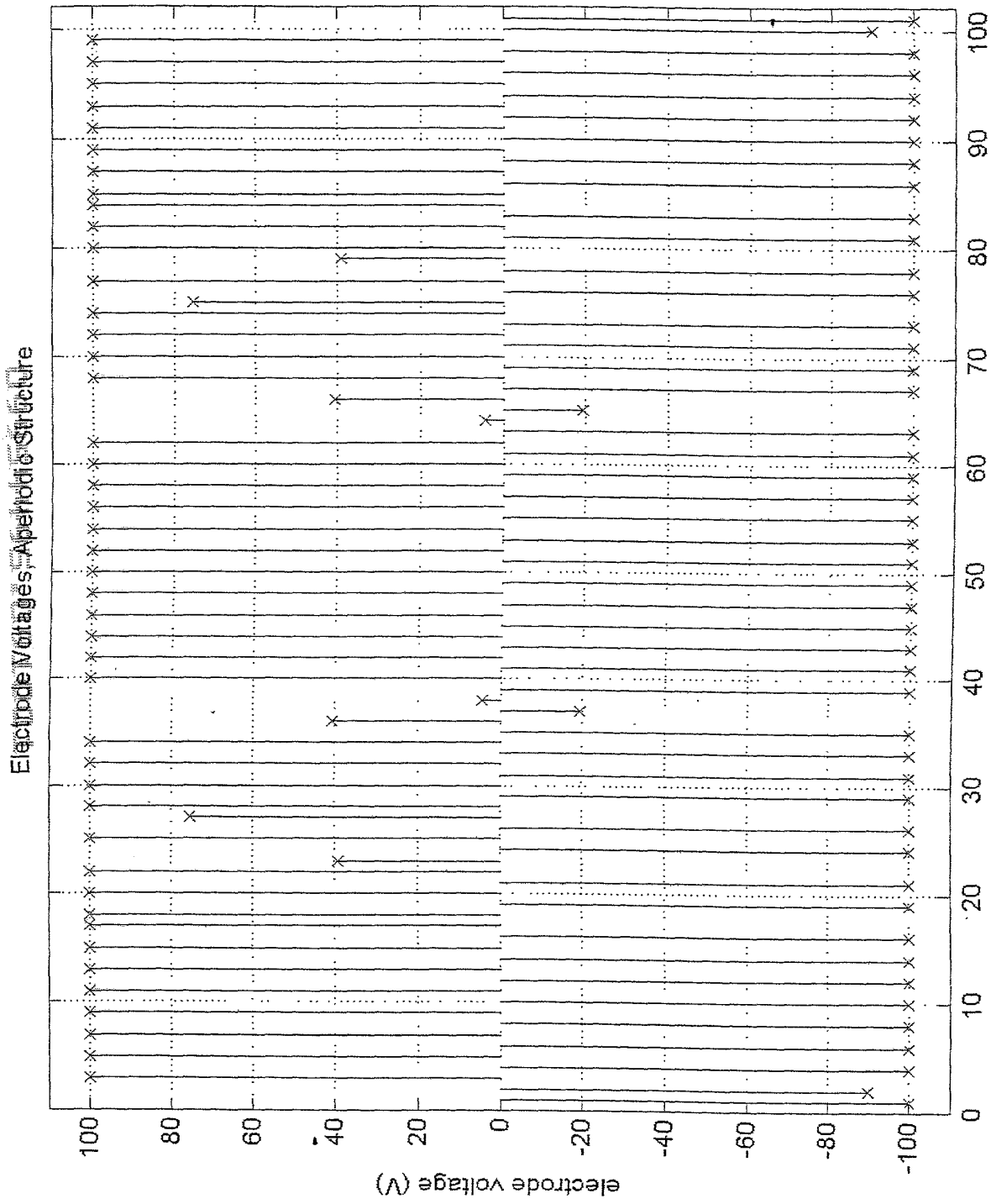

Electrode Voltages, Aperiodic Structure
electrode voltage (V)
electrode number
100
80
60
40
20
0
-20
-40
-60
-80
-100
0
10
20
30
40
50
60
70
80
90
100

FIG. 20A

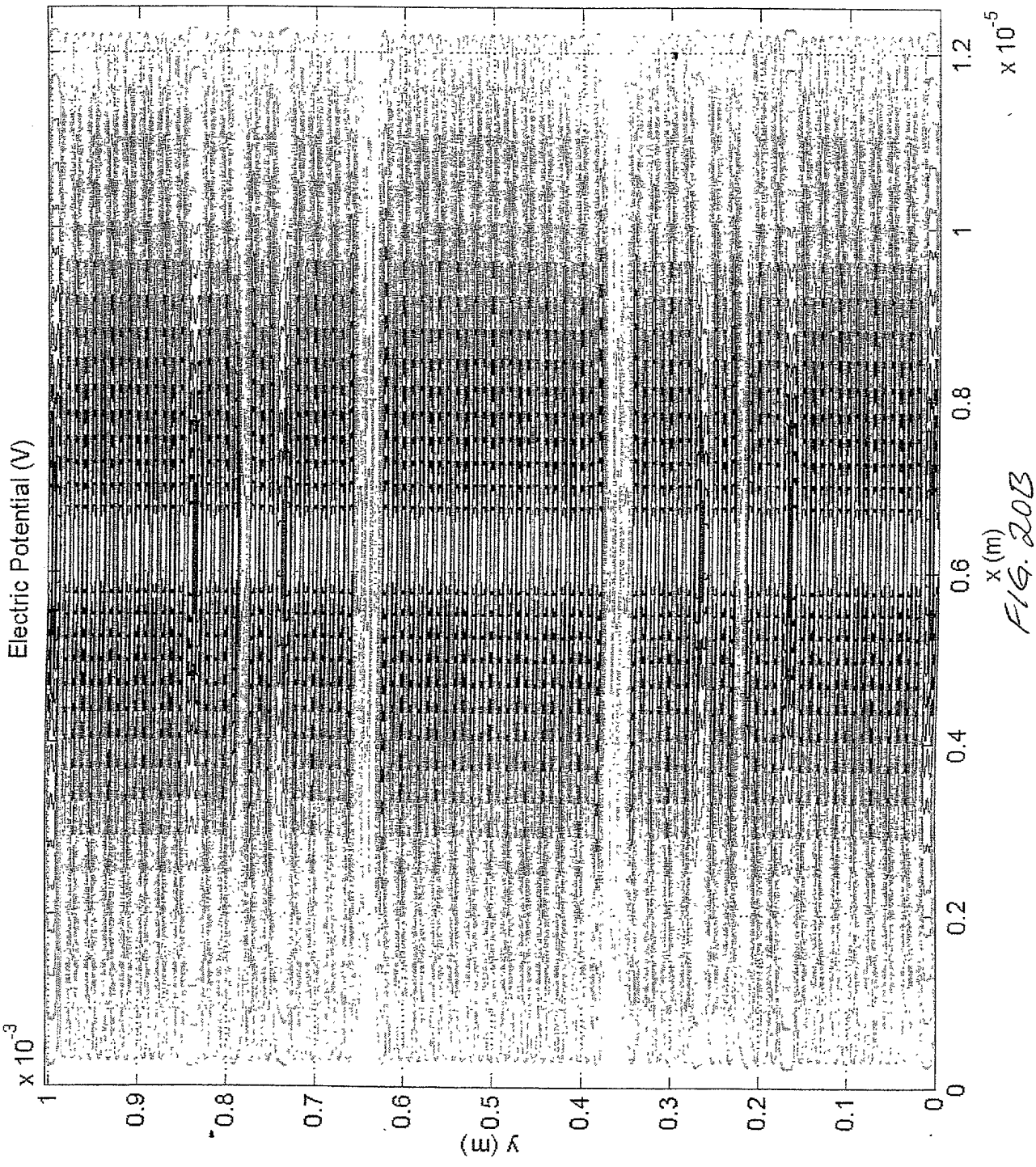

Electric Potential (V)
x 10^-3
y (m)
x (m)
x 10^-5
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0.2
0.4
0.6
0.8
1
1.2

FIG. 20B

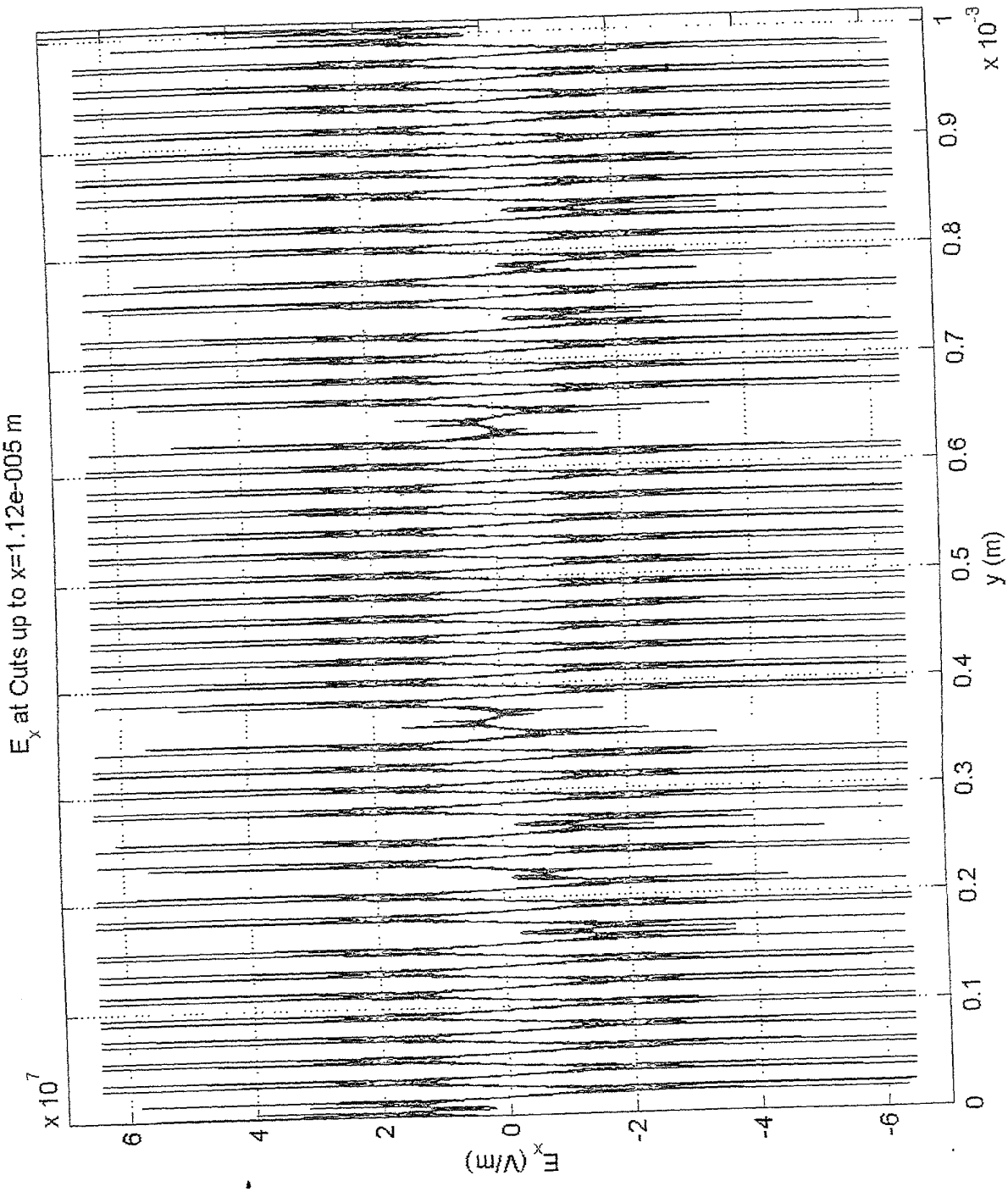

E_x at Cuts up to x=1.12e-005 m
x 10^7
6
4
2
0
-2
-4
-6
E_x (V/m)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
x 10^-3
y (m)

FIG. 20C

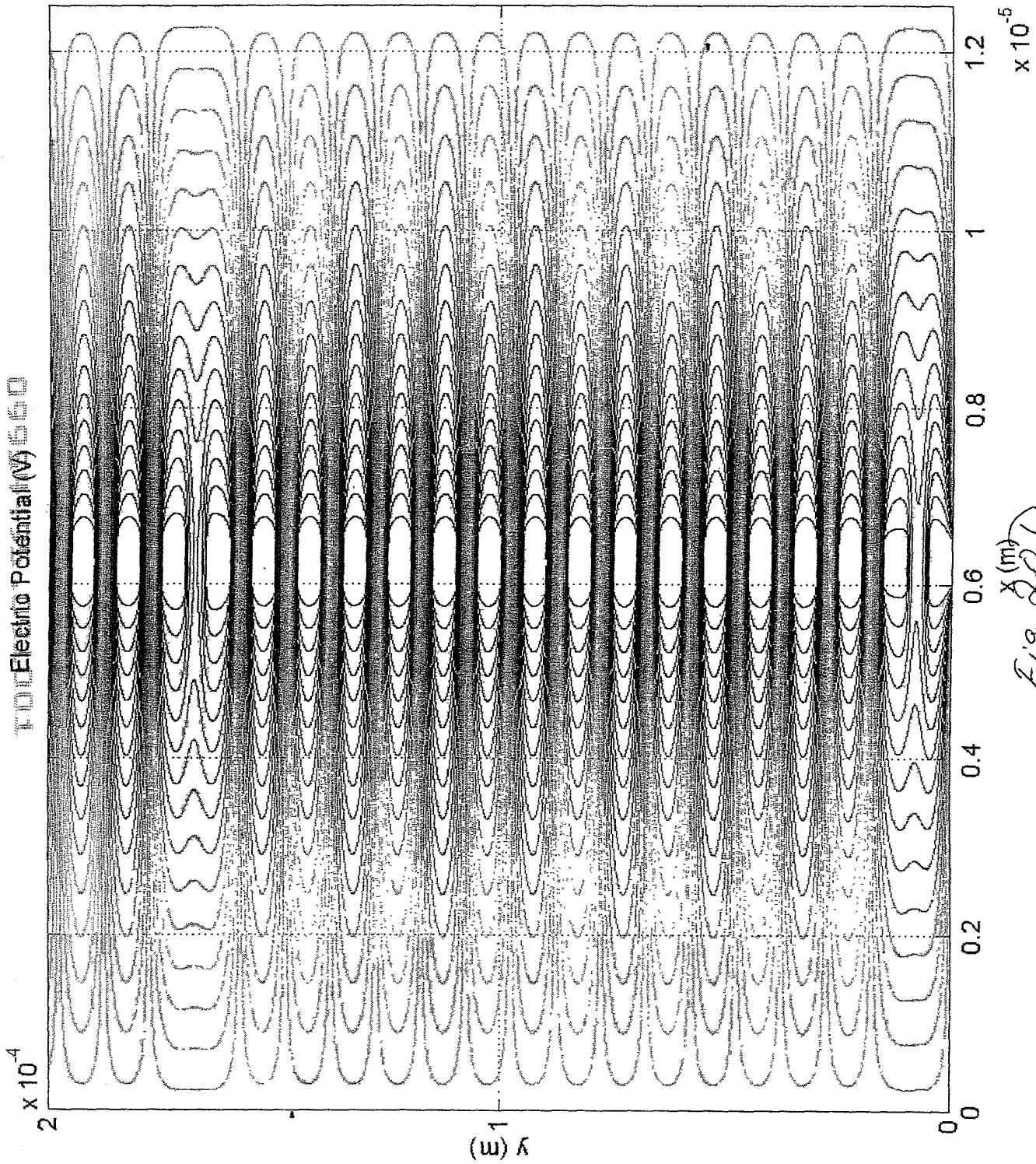


Fig. 20D

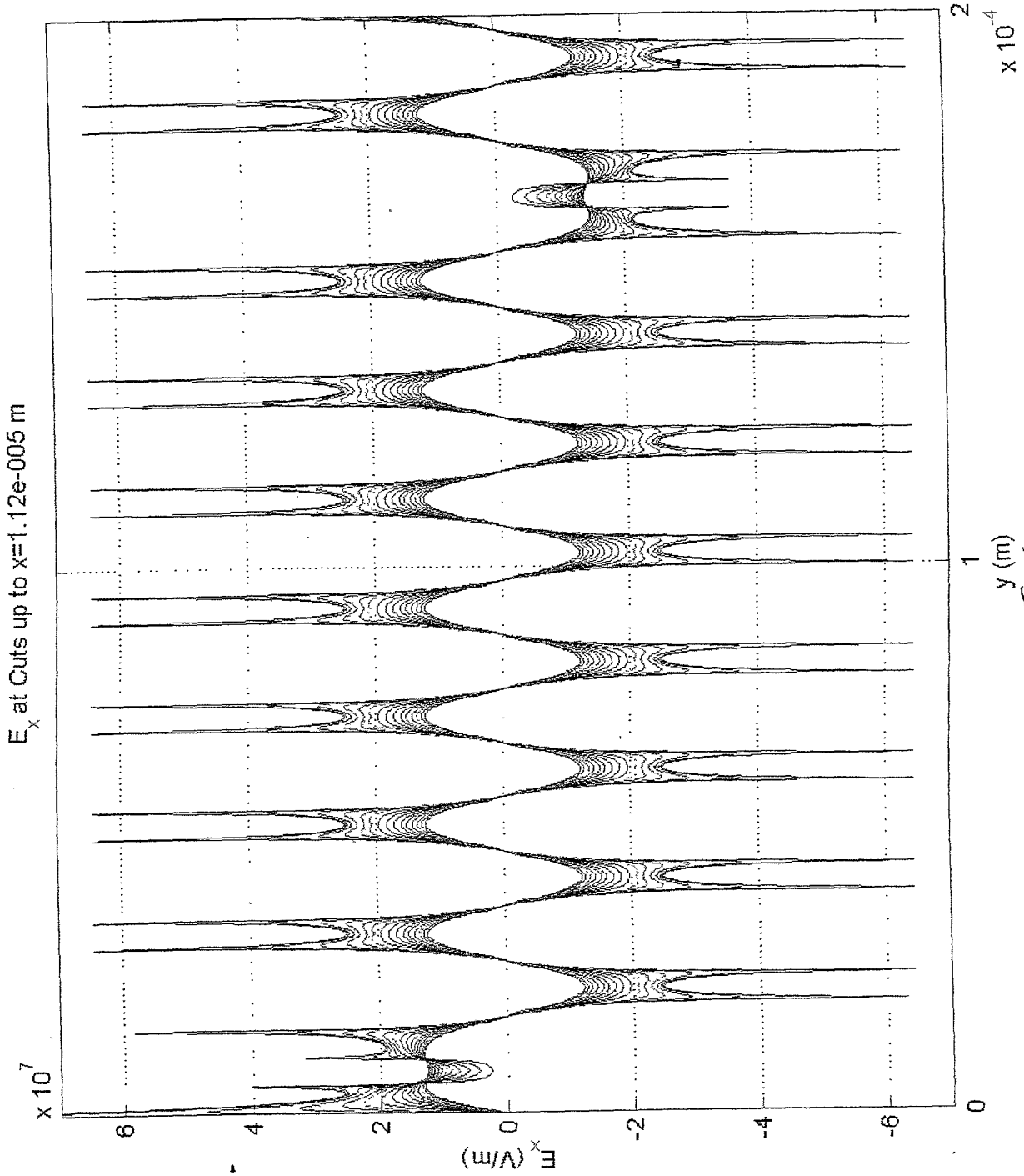


FIG. 20E

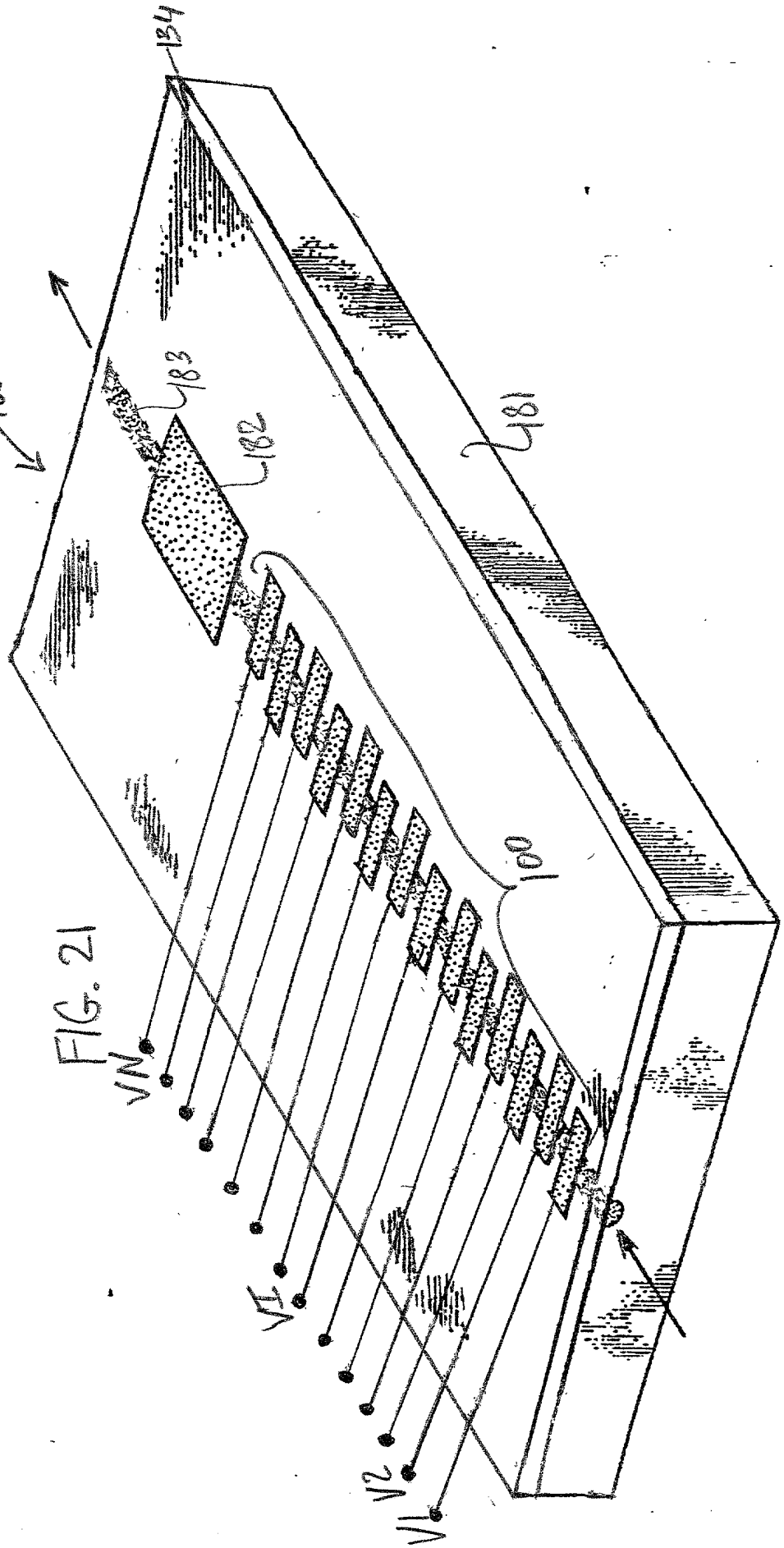


FIG. 21

20070905.055455.0950

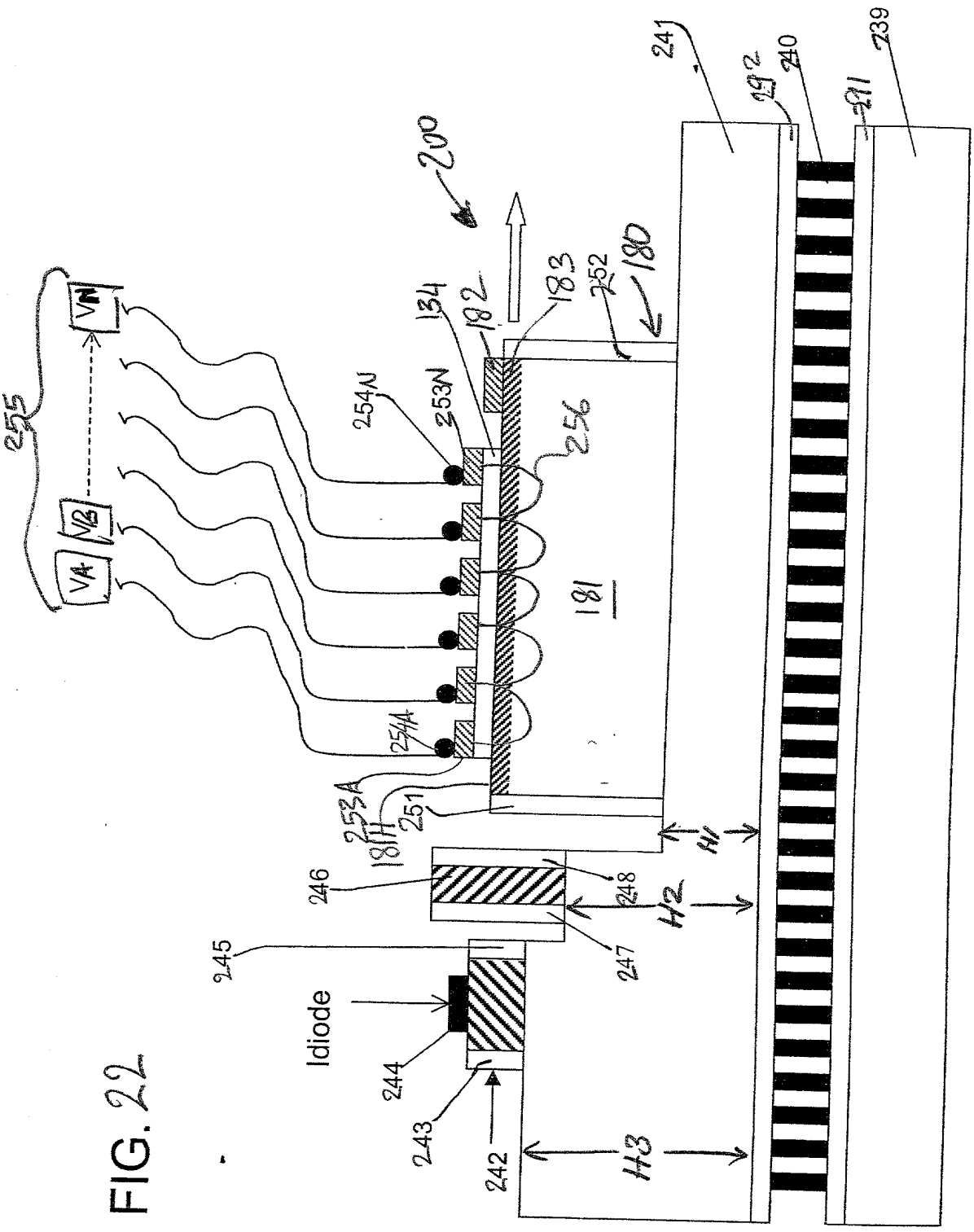
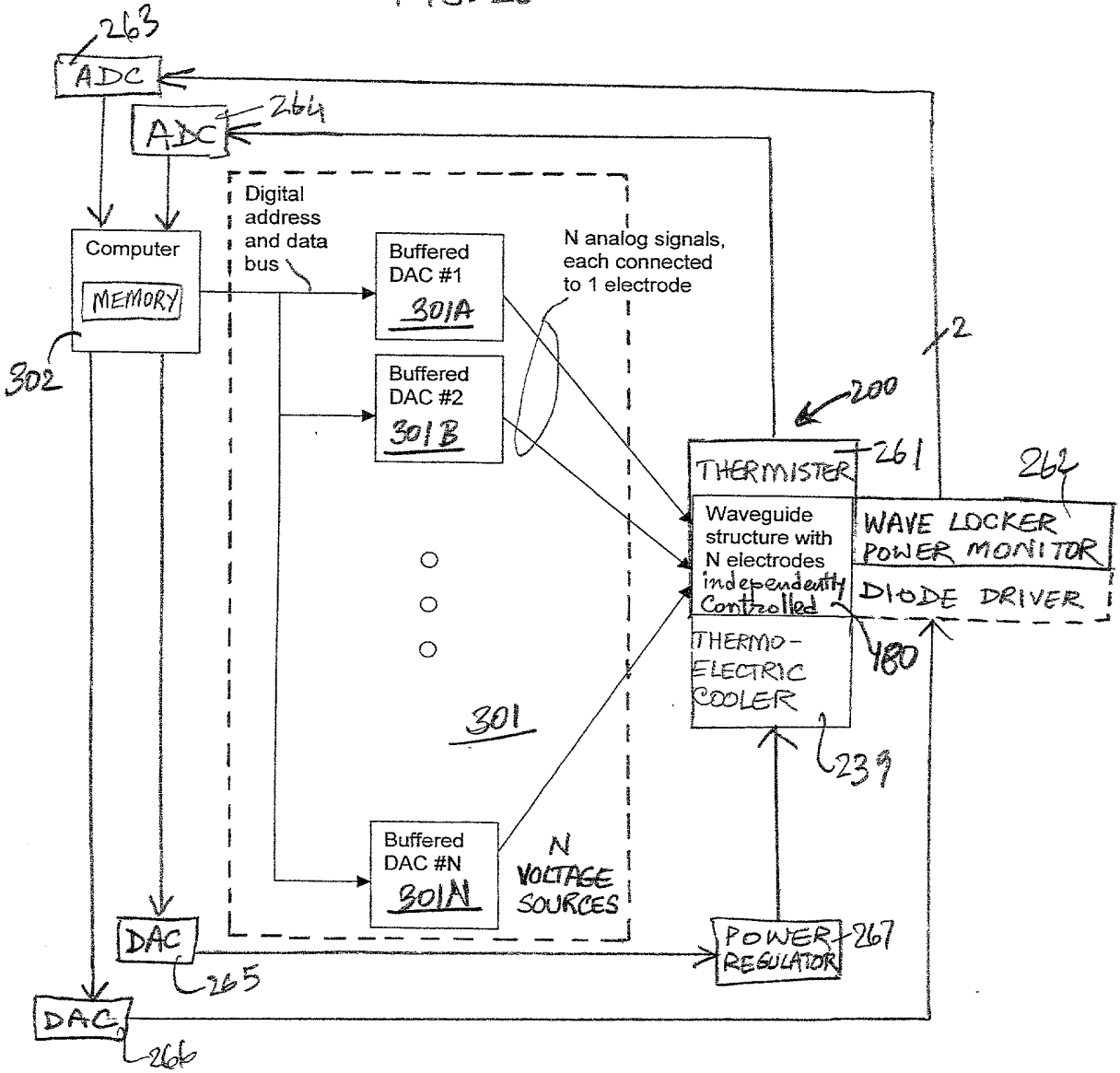


FIG. 22

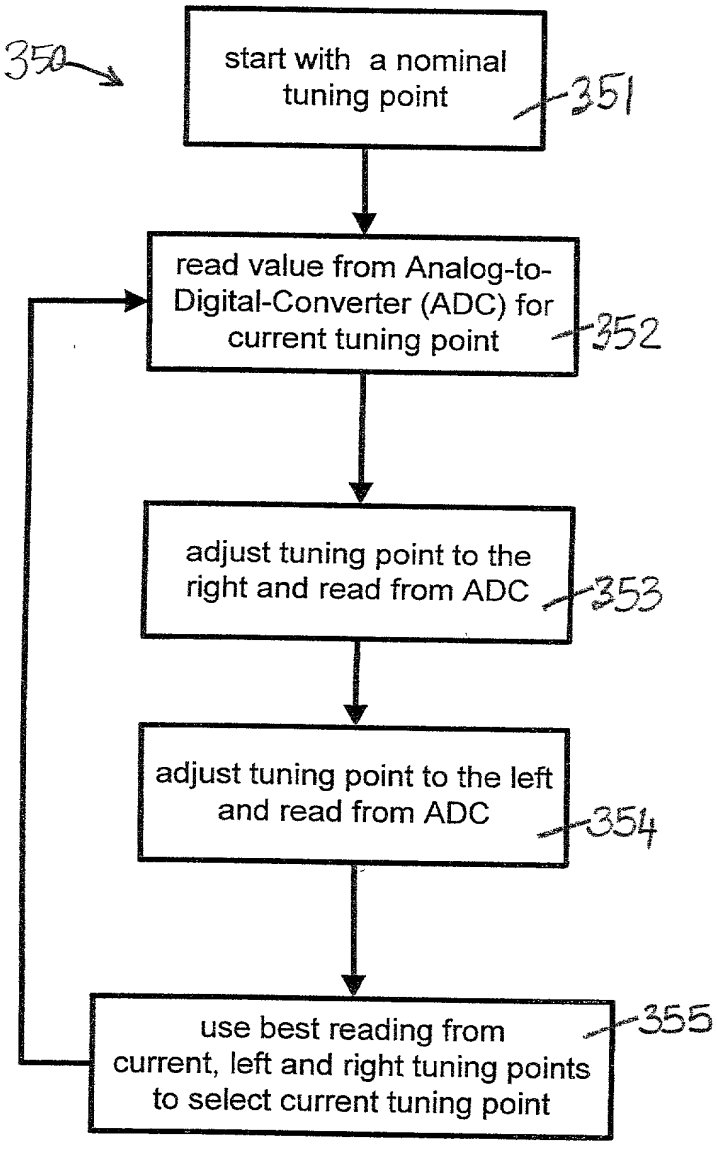
T00120 - 5/4/2005

FIG. 23



05515495 .061004

FIG. 24


350
start with a nominal tuning point
351
read value from Analog-to-Digital-Converter (ADC) for current tuning point
352
adjust tuning point to the right and read from ADC
353
adjust tuning point to the left and read from ADC
354
use best reading from current, left and right tuning points to select current tuning point
355

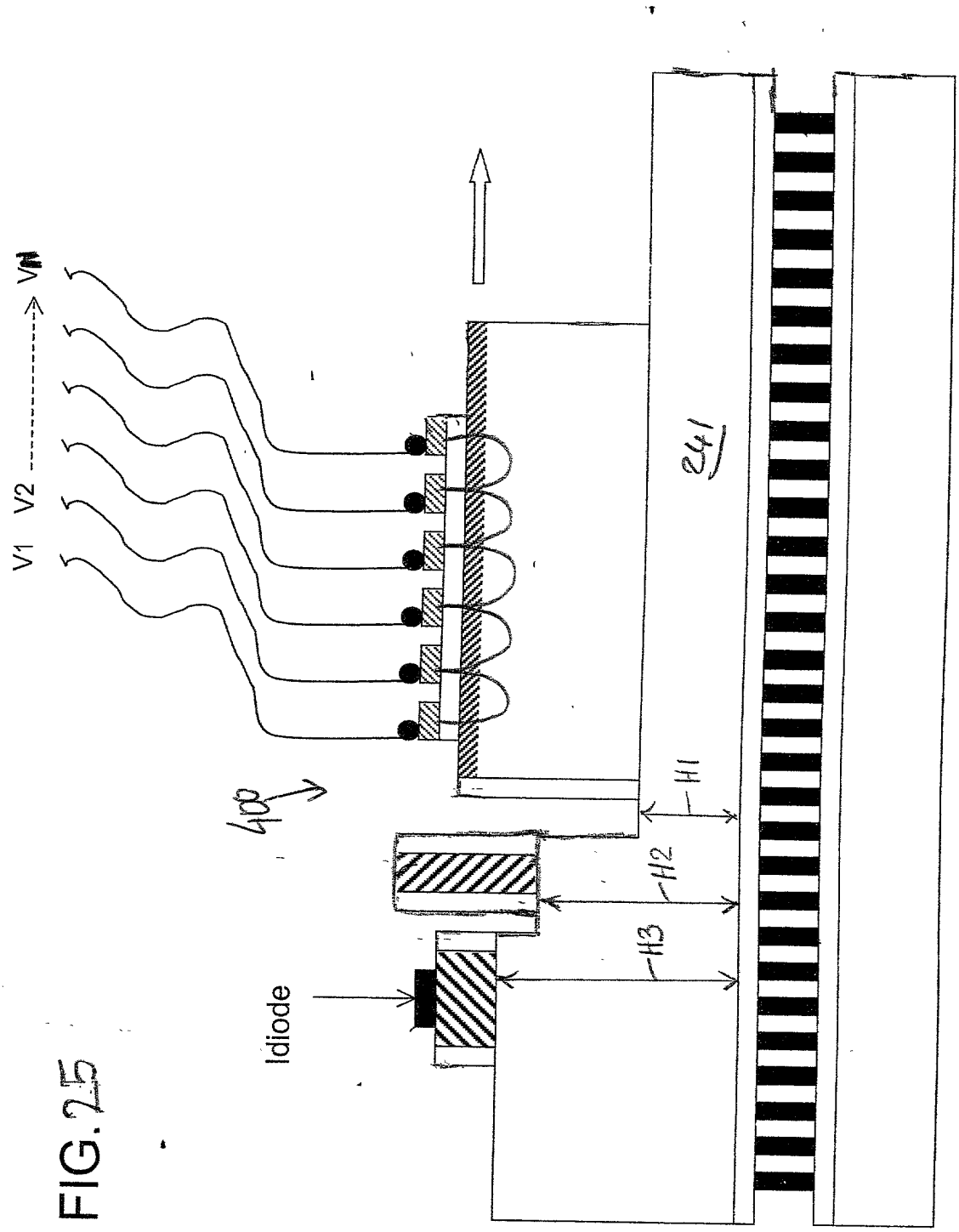


FIG. 25

FIG. 26

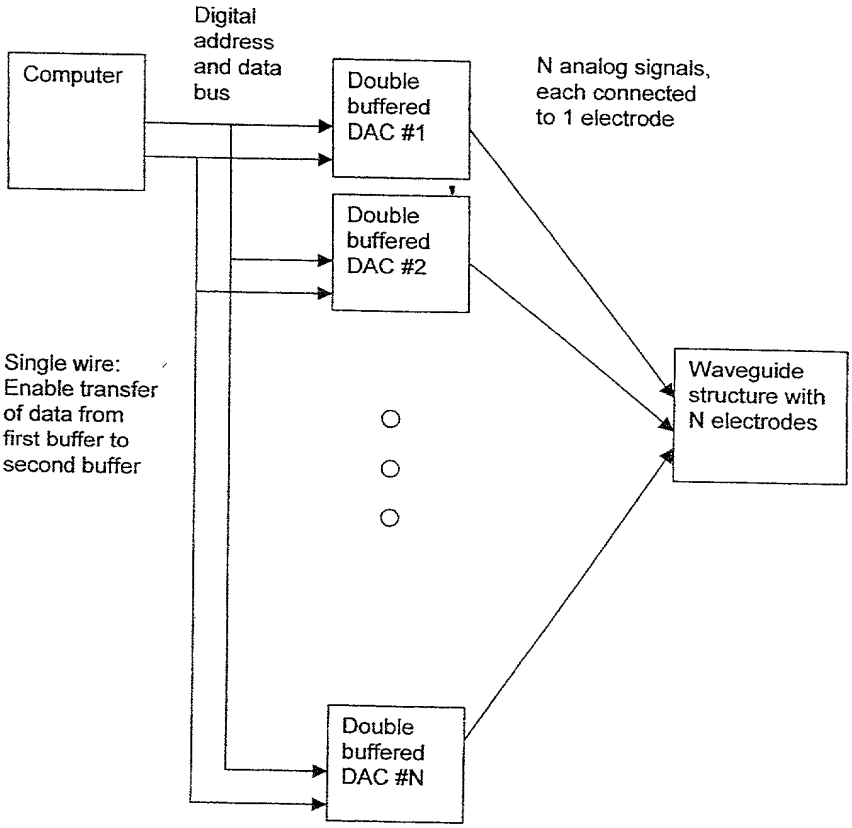
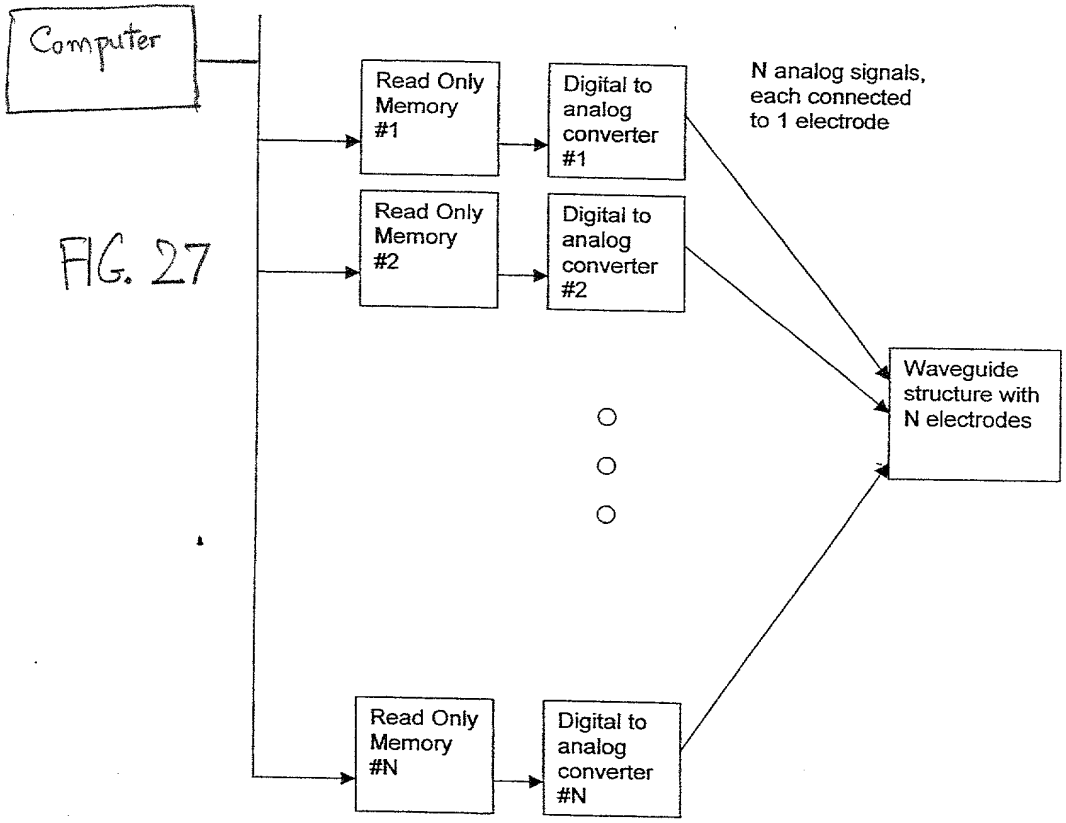


FIG. 27



05515155 .05100

FIG. 28

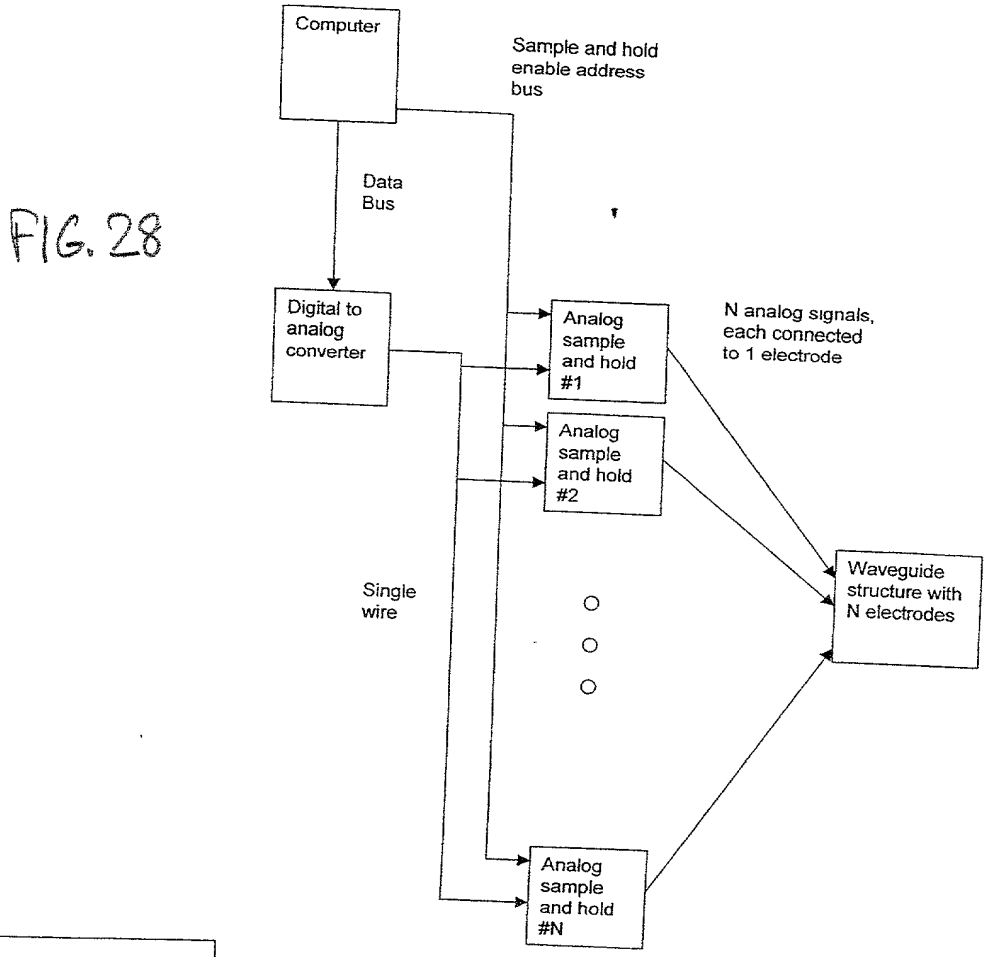
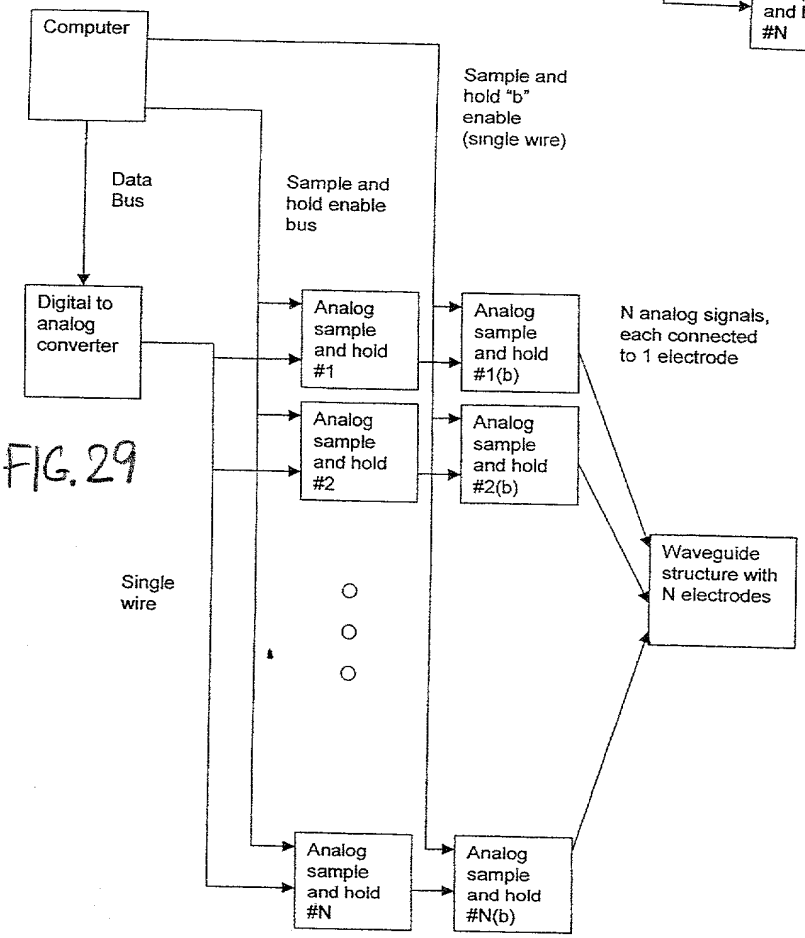

Computer
Sample and hold enable address bus
Data Bus
Digital to analog converter
Analog sample and hold #1
Analog sample and hold #2
Analog sample and hold #N
N analog signals, each connected to 1 electrode
Single wire
Waveguide structure with N electrodes

FIG. 29


Computer
Sample and hold "b" enable (single wire)
Data Bus
Sample and hold enable bus
Digital to analog converter
Analog sample and hold #1
Analog sample and hold #1(b)
Analog sample and hold #2
Analog sample and hold #2(b)
Analog sample and hold #N
Analog sample and hold #N(b)
N analog signals, each connected to 1 electrode
Single wire
Waveguide structure with N electrodes